

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**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 Grade 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.

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**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:** white solid

**Percent Purity:** >97%

**Boiling Point:** NA

**Melting Point:** NA

**Freezing Point:** NA

**pH:** NA

**Solubility in Water:** NA

**Vapor Density:** NA

**Vapor Pressure:** NA

## Section 10. Stability and Reactivity

**Chemical stability:** Stable when stored under recommended storage conditions.

**Incompatibility:** NA

**Hazardous Decomposition Components:** NA

## 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

**Substances of Very High Concern:** None

**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 2, 2021

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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## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** S-4FB Linker (DMF Soluble), S-1004

**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

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## 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.

**Molecular Formula:** C<sub>12</sub>H<sub>9</sub>NO<sub>5</sub>

**Molecular Weight:** 247.2

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:** white solid

**Percent Purity:** >97%

**Boiling Point:** NA

**Melting Point:** NA

**Freezing Point:** NA

**pH:** NA

**Solubility in Water:** NA

**Vapor Density:** NA

**Vapor Pressure:** NA

## Section 10. Stability and Reactivity

**Chemical stability:** Stable when stored under recommended storage conditions.

**Incompatibility:** NA

**Hazardous reactions/decomposition products:** NA

## 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.

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## 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

**Substances of Very High Concern:** None

**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 2, 2021

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## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** 10X Modification Buffer, S-4000

**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](mailto:vector@vectorlabs.com)

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## 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



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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

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## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** 10X Conjugation Buffer, S-4002

**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

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## 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%
Sodium azide	26628-22-8	<0.1%

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:** 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:** Acidic pH.

**Materials to avoid:** Strong oxidizers. Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides.

**Hazardous reactions/decomposition products:** Carbon monoxide, carbon dioxide, nitrogen oxides.

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## 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 2, 2021

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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## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** TurboLINK™ Catalyst Buffer (10x), S-2006-105

**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 Grade 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

**Acute 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 1% aniline, pH 6.0.

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**Component:**

Sodium Phosphate, Dibasic  
Sodium Chloride  
Sodium Phosphate, Monobasic  
Aniline

**CAS#:**

7558-79-4  
7647-14-5  
10049-21-5  
62-53-3

**% by weight:**

<0.1%  
<0.1%  
<0.1%  
<0.1%

## 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.

## 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

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**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.

**Sensitization;**

Skin: May cause allergic skin reaction.

**Target Organs:**

Blood, bladder, kidneys, central nervous system.

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## 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  $\mu\text{mol/L}$ , 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)



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## 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

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## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**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

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## 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.

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**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.

<b>Unsuitable Extinguishing Media:</b>	No information available
<b>Flash Point:</b>	58 °C / 136.4 °F
<b>Method -</b>	Abel-Pensky (DIN 51755)
<b>Autoignition Temperature</b>	445 °C / 833 °F
<b>Explosion Limits</b>	
<b>Upper</b>	15.2 vol %
<b>Lower</b>	2.2 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	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 (CO<sub>2</sub>) Nitrogen oxides (NO<sub>x</sub>)

### 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

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## 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-DIMETTHYLFORMAMIDE	3	III

### TDG

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

### IATA

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

### IMDG/IMO

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

## Section 15. Regulatory Information

Date of Issue: 04/02/21

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Previous Date of Issue: N/A

Previous Version: N/A

**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 2, 2021

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 Grade Use Only.



## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** 2-Hydrazinopyridine dihydrochloride, S-2002-100

### 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

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## Section 2. Hazards Identification

### 2.1 Classification of the substance or mixture

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

- Skin irritation (Category 2), H315
- Eye irritation (Category 2A), H319
- Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

### 2.2 GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

#### Hazard statement(s)

- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

#### Precautionary statement(s)

- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ eye protection/ face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### Section 3. Composition/Information on Ingredients

<b>Component:</b>	<b>CAS#:</b>	<b>EC#:</b>
2-Pyridone hydrazone dihydrochloride	62437-99-4	263-541-3

**Molecular Formula:** C<sub>5</sub>H<sub>7</sub>N<sub>3</sub>HCl

**Molecular Weight:** 181.1

No ingredients are hazardous according to OSHA criteria.

### Section 4. First Aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen.

**Skin contact:** Immediately wash skin with soap and copious amounts of water.

**Eye Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes.

**Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Other:** Wash contaminated clothing before re-use.

### 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 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

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into

consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place. Storage class (TRGS 510): 13: Non-Combustible Solids

## 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:** White solid

**Percent Purity:** >95%

**Boiling Point:** NA

**Melting Point:** NA

**Freezing Point:** NA

**pH:** NA

**Solubility in Water:** NA

**Vapor Density:** NA

**Vapor Pressure:** NA

## Section 10. Stability and Reactivity

**Chemical stability:** Stable when stored under recommended storage conditions.

**Incompatibility:** Strong oxidizing agents

**Hazardous Decomposition Components:** Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas. Other decomposition products - No data available.

## Section 11. Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

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Previous Date of Issue: N/A

Previous Version: N/A

No data available

### **Respiratory or skin sensitization**

No data available

### **Germ cell mutagenicity**

No data available

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

No data available

### **Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 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.

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

**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 – Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

2-Pyridone hydrazone dihydrochloride CAS-No. 62437-99-4

### New Jersey Right To Know Components

2-Pyridone hydrazone dihydrochloride CAS-No. 62437-99-4

### 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 2, 2021

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 Grade Use Only.

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** 2-Sulfobenzaldehyde, S-2005-100

### 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

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## 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#:	EC#:
Sodium 2-formyl-benzosulfonate	1008-72-6	213-758-4
2-Sulfobenzaldehydesodium salt		
Benzaldehyde-2-sulfonic acid sodium salt		

**Molecular Formula:** C<sub>7</sub>H<sub>5</sub>O<sub>4</sub>S.Na

**Molecular Weight:** 208.17

No ingredients are hazardous according to OSHA criteria.

## Section 4. First Aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen.

**Skin contact:** Immediately wash skin with soap and copious amounts of water.

**Eye Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes.

**Ingestion:** If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Other:** Wash contaminated clothing before re-use.

## 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 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

**Appearance:** White solid

**Percent Purity:** >75%

**Boiling Point:** NA

**Melting Point:** NA

**Freezing Point:** NA

**pH:** NA

**Solubility in Water:** NA

**Vapor Density:** NA

**Vapor Pressure:** NA

## Section 10. Stability and Reactivity

**Chemical stability:** Stable when stored under recommended storage conditions.

**Incompatibility:** Hydrolyzes in water.

**Hazardous Decomposition Components:** NA

## Section 11. Toxicological Information

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

**Chronic toxicity:** None known.

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Previous Date of Issue: N/A

Previous Version: N/A

## 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 2, 2021

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 Grade Use Only.



Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** 10X PBS 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

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## 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%
Sodium azide	26628-22-8	<0.1%

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:** 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:** Acidic pH.

**Materials to avoid:** Strong oxidizers. Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides.

**Hazardous reactions/decomposition products:** Carbon monoxide, carbon dioxide, nitrogen oxides.

## Section 11. Toxicological Information

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

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Previous Date of Issue: N/A

Previous Version: N/A

**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 2, 2021

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 Grade Use Only.

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**Kit Component:** Oligo Resuspension Solution

### 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 Grade 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.

### Potential Health Effects

**Acute Eye:** Direct contact with alkaline solutions can cause blindness.

**Acute Skin:** Direct contact may cause skin irritation with redness.

**Acute Ingestion:** Acute exposure may cause gastrointestinal irritation to the mouth and stomach.

**Acute Inhalation:** Acute and chronic exposure may cause irritation of the mucous membranes. Symptoms may include tightness and difficulty breathing.

## Section 3. Composition/Information on Ingredients

Oligo resuspension solution is supplied as a clear aqueous solution containing 0.5 mM EDTA (a metal chelator) and 100 µM sodium hydroxide at pH 9.35.

Component:	CAS#:	% by weight:
Ethylenediaminetetraacetic acid, EDTA, sodium salt	60-00-4	<0.02%
Sodium hydroxide (NaOH)	1310-73-2	<0.5%

## Section 4. First Aid Measures

**Inhalation:** In inhaled, move to fresh air. If not breathing, administer artificial respiration. If breathing is difficult, give oxygen or artificial respiration by qualified personnel.

**Skin contact:** In case of skin contact, wash affected areas with soap and water and flush the area with copious amounts of water. Remove contaminated clothing.

**Eye Contact:** In case of contact with eyes, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eye lids.

**Ingestion:** If swallowed, rinse mouth out with water provided person is conscious. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

## Section 5. Fire Fighting Measures

**Fire:** This product is not considered to be a fire hazard.

**Autoignition:** Unknown

**Flash Point:** Unknown

**Flammability Limits (vol/vol%):** Unknown **Lower:** **Upper:** Unknown

**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, colorless liquid

**Percent Purity:** 0.018%

**Boiling Point:** Not Available

**Melting Point:** Not Available

**Specific Gravity:** Not Available

**Freezing Point:** Not Available

**Vapor Pressure:** Not Available

**Vapor Density:** Not Available

**Solubility:** Aqueous solutions

**Evaporation rate:** Not Available

**pH:** 7.0

## Section 10. Stability and Reactivity

**Chemical stability:** Stable when stored under recommended storage conditions.

**Conditions to avoid:** Avoid strong oxidizing agents.

**Materials to avoid:** Carbon monoxide, carbon dioxide, nitrogen oxides in case of fire.

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous Polymerization:** Under normal conditions of storage and use, polymerization products should not be produced.

## Section 11. Toxicological Information

### United States

**Acute toxicity/Conclusion/Summary:** To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

**Chronic toxicity/Conclusion/Summary:** Not available.

**Carcinogenicity/Conclusion/Summary:** Not available.

**Mutagenicity/Conclusion/Summary:** **Mutagen:** Hamster 200 gm/l Cell type: Lung, cytogenetic analysis.

**Teratogenicity/Conclusion/Summary:** Not available.

**Reproductive toxicity/Summary:** Not available

### Europe

**Chronic effects:** No known significant effects or critical hazards.

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:**— **Mutagen:** Hamster 200 gm/l Cell type: Lung, cytogenetic analysis.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

## Section 12. Ecological Information

**Environmental effects:** No known significant effects or critical hazards.

**Aquatic ecotoxicity/Conclusion/Summary:** 96 Hr LC50 bluegill: 159 mg/L (Static)

**Other adverse effects:** No known significant effects or critical hazards.

## 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:

SARA 302/304/311/312 extremely hazardous substances: No products were found.

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

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: This product is listed.

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: This product is listed.

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

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found. 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 Risk Phrases:**

- R36 irritating to eyes
- R37 irritating to respiratory system
- R38 irritating to skin

### WHMIS (Canada):

Not controlled under WHMIS (Canada).

Canadian Inventory: All components are listed or exempted

## Section 16. Other Information

**Date of Issue or Revision:** April 2, 2021

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 Grade Use Only.

Date of Issue: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

## Section 1. Product and Company Identification

**Product Name:** Protein–Oligonucleotide Conjugation Kit  
**Catalog No.:** S-9011-1  
**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

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## 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: 04/02/21

Version 00

Previous Date of Issue: N/A

Previous Version: N/A

**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 2, 2021

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