according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : ImmPACT® NovaRED® Substrate Kit, Peroxidase

Product code : SK-4805

Kit component : ImmPACT® NovaRED® Diluent

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

1.3. Supplier

Manufacturer

Vector Laboratories, Inc. 6737 Mowry Ave Newark, CA 94560

T (650) 697-3600 - F (650) 697-0339 customerservice@vectorlabs.com

1.4. Emergency telephone number

Emergency number : US only (800) 227-6666 or outside of the US +1 (650) 697-3600 (7:15 AM - 5:00 PM PST)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2 Serious eye damage/eye irritation Category 2

Reproductive toxicity Category 1B

Precautionary statements (GHS US)

Highly flammable liquid and vapor Causes serious eye irritation

May damage fertility or the unborn child

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)







Signal word (GHS US) : Danger

Hazard statements (GHS US) : Highly flammable liquid and vapor

Causes serious eye irritation

May damage fertility or the unborn child Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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. Wash hands, forearms and face thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

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and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use media other than water to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container to hazardous or special waste collection point, in accordance with

local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Trade secret component*	CAS-No.: Trade	10 - 15
	Secret	

^{*}Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.

This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

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5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable

protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety

precautions have been read and understood. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke

when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ImmPACT® NovaRED® Diluent

No additional information available

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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Trade secret component		
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	20 ppm	
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: Skin; A4 (Not classifiable as a Human Carcinogen)	
Regulatory reference	ACGIH 2022	
USA - OSHA - Occupational Exposure Limits		
OSHA PEL TWA [1]	70 mg/m³	
OSHA PEL TWA [2]	40 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

land protection:
Protective gloves
ye protection:
Safety glasses
kin and body protection:
Vear suitable protective clothing
Respiratory protection:
Vear respiratory protection.

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid Color Colorless No data available Odor Odor threshold No data available рΗ : No data available Melting point : Not applicable Freezing point : No data available

Boiling point : > 185 °F (estimated value) Flash point : < 73 °F (estimated value)

Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Not applicable. Vapor pressure : No data available : No data available Relative vapor density at 20 °C

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Relative density : No data available Solubility No data available Partition coefficient n-octanol/water (Log Pow) No data available Auto-ignition temperature : No data available : No data available Decomposition temperature : No data available Viscosity, kinematic Viscosity, dynamic : No data available **Explosion limits** : No data available Explosive properties : No data available Oxidizing properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified

Trade secret component	
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

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Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : Not classified STOT-repeated exposure : Not classified

Trade secret component

NOAEC (inhalation,rat,gas,90 days) 400 ppm Animal: rat, Guideline: other:

Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse

effects in the environment.

Trade secret component	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	> 960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	102 mg/l Test organisms (species): Oryzias latipes Duration: '21 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Trade secret component	
Partition coefficient n-octanol/water (Log Pow)	-0.3 Source: ICSC

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN1993 UN-No. (IMDG) : 1993 UN-No. (IATA) : 1993

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14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s.
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3
Hazard labels (DOT) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Hazard labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3



14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1993

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H71). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110

(31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when

the flash point of the hazardous material transported is greater than 0 C (32 F).

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the

MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

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DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

DOT Vessel Stowage Location

-

: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

IMDG

Special provision (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP28, TP8

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER

Stowage category (IMDG) : B

IATA

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) : Y341 PCA limited quantity max net quantity (IATA) : 1L PCA packing instructions (IATA) 353 PCA max net quantity (IATA) 5L CAO packing instructions (IATA) 364 60L CAO max net quantity (IATA) Special provision (IATA) : A3 ERG code (IATA) 3H

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Trade secret component	
Subject to reporting requirements of United States S Listed on EPA Hazardous Air Pollutant (HAPS)	ARA Section 313
CERCLA RQ	5000 lb

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
Trade secret component()	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Custom SDS USA VECTOR

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION 1: Identification

1.1. Identification

Product form : Mixture

ImmPACT® NovaRED® Substrate Kit, Peroxidase Product name

Product code SK-4805

Kit component : ImmPACT® NovaRED® Reagent 1

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

1.3. Supplier

Vector Laboratories, Inc. 6737 Mowry Ave Newark, CA 94560 U.S.A

T (650) 697-3600 - F (650) 697-0339 customerservice@vectorlabs.com

1.4. Emergency telephone number

Emergency number : US only (800) 227-6666 or outside of the US +1 (650) 697-3600 (7:15 AM - 5:00 PM PST)

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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ImmPACT® NovaRED® Reagent 1

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color Pale to dark orange Odor No data available Odor threshold No data available No data available рΗ : Not applicable Melting point : No data available Freezing point Boiling point No data available No data available Flash point Relative evaporation rate (butyl acetate=1) No data available Flammability (solid, gas) Not applicable. Vapor pressure No data available Relative vapor density at 20 °C No data available Relative density No data available Solubility No data available Partition coefficient n-octanol/water (Log Pow) No data available Auto-ignition temperature : No data available Decomposition temperature : No data available Viscosity, kinematic : No data available Viscosity, dynamic : No data available **Explosion limits** : No data available No data available Explosive properties

9.2. Other information

Oxidizing properties

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

No data available

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified Skin corrosion/irritation Not classified Serious eye damage/irritation Not classified Respiratory or skin sensitization : Not classified Germ cell mutagenicity Not classified : Not classified Carcinogenicity Reproductive toxicity : Not classified STOT-single exposure Not classified STOT-repeated exposure Not classified Aspiration hazard : Not classified : No data available Viscosity, kinematic

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable Proper Shipping Name (IMDG) : Not applicable

SK-4805 VUS-LBL-01915

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Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

IMDO

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Sodium Acetate, Trihydrate CAS-No. 6131-90-4 25 – 30%

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Custom_SDS_USA_VECTOR

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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SECTION 1: Identification

1.1. Identification

Product form : Mixture

Product name : ImmPACT® NovaRED® Substrate Kit, Peroxidase

Product code : SK-4805

: ImmPACT® NovaRED® Reagent 2 Kit component

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

1.3. Supplier

Manufacturer

Vector Laboratories, Inc. 6737 Mowry Ave Newark, CA 94560

U.S.A

T (650) 697-3600 - F (650) 697-0339 customerservice@vectorlabs.com

1.4. Emergency telephone number

: US only (800) 227-6666 or outside of the US +1 (650) 697-3600 (7:15 AM - 5:00 PM PST) Emergency number

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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2
Acute toxicity (oral) Category 4
Acute toxicity (inhalation:dust,mist) Category 4
Serious eye damage/eye irritation Category 2

Highly flammable liquid and vapor Harmful if swallowed Harmful if inhaled Causes serious eye irritation

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)





Signal word (GHS US)

Hazard statements (GHS US)

: Danger

: Highly flammable liquid and vapor Harmful if swallowed or if inhaled

Causes serious eye irritation

Precautionary statements (GHS US)

: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands, forearms and face thoroughly after handling.

Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center or doctor if you feel unwell.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

Call a poison center or doctor if you feel unwell.

Rinse mouth.

If eye irritation persists: Get medical advice/attention. In case of fire: Use media other than water to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container to hazardous or special waste collection point, in accordance with

local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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3.2. Mixtures

Name	Product identifier	%
Trade secret component*	CAS-No.: Trade	> 75
	Secret	

^{*}Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.

This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison

center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing

dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground/bond container and receiving equipment. Use only non-sparking tools. Take

precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid

contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ImmPACT® NovaRED® Reagent 2		
No additional information available		
Trade secret component		
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	20 ppm	
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: Skin; A4 (Not classifiable as a Human Carcinogen)	
Regulatory reference	ACGIH 2022	
USA - OSHA - Occupational Exposure Limits		
OSHA PEL TWA [1]	70 mg/m³	
OSHA PEL TWA [2]	40 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection.

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Pale to dark yellow Color Odor No data available Odor threshold No data available рΗ No data available Melting point Not applicable Freezing point No data available Boiling point : 180 - 200 °F 36 - 40 °F Flash point Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Not applicable. Vapor pressure No data available Relative vapor density at 20 °C No data available No data available Relative density No data available Solubility Partition coefficient n-octanol/water (Log Pow) No data available Auto-ignition temperature No data available Decomposition temperature No data available : No data available Viscosity, kinematic Viscosity, dynamic : No data available **Explosion limits** : No data available Explosive properties : No data available

9.2. Other information

Oxidizing properties

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor.

: No data available

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

: Harmful if swallowed. Acute toxicity (oral) Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Harmful if inhaled.

* * *	
ImmPACT® NovaRED® Reagent 2	
ATE US (oral)	598.444 mg/kg body weight
ATE US (dust, mist)	2 mg/l/4h
Trade secret component	
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	· Not classified

Respiratory or skin sensitization Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity : Not classified STOT-single exposure Not classified STOT-repeated exposure : Not classified

Trade secret component	
NOAEC (inhalation,rat,gas,90 days)	400 ppm Animal: rat, Guideline: other:
Aspiration hazard	: Not classified

Aspiration hazard Viscosity, kinematic : No data available Symptoms/effects after eye contact : Eye irritation.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse

effects in the environment.

Trade secret component	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	> 960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	102 mg/l Test organisms (species): Oryzias latipes Duration: '21 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Trade secret component	
Partition coefficient n-octanol/water (Log Pow)	-0.3 Source: ICSC

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN1993 UN-No. (IMDG) : 1993 UN-No. (IATA) : 1993

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s. Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S. Proper Shipping Name (IATA) : Flammable liquid, n.o.s.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3 : 3 Hazard labels (DOT)

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IMDG

Transport hazard class(es) (IMDG) : 3
Hazard labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3



14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1993

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite

(31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110

kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature

during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when

the flash point of the hazardous material transported is greater than 0 C (32 F).

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the

MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

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DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

IMDG

Special provision (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP28, TP8

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER

Stowage category (IMDG) : B

IATA

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) Y341 PCA limited quantity max net quantity (IATA) : 1L : 353 PCA packing instructions (IATA) : 5L PCA max net quantity (IATA) CAO packing instructions (IATA) : 364 CAO max net quantity (IATA) : 60L Special provision (IATA) : A3 ERG code (IATA) 3Н

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Trade secret component

Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ 5000 lb

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
Trade secret component()	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Custom_SDS_USA_VECTOR

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION 1: Identification

1.1. Identification

Product form : Mixture

: ImmPACT® NovaRED® Substrate Kit, Peroxidase Product name

: SK-4805 Product code

: ImmPACT® NovaRED® Reagent 3 Kit component

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

1.3. Supplier

Vector Laboratories, Inc. 6737 Mowry Ave Newark, CA 94560 U.S.A

T (650) 697-3600 - F (650) 697-0339 customerservice@vectorlabs.com

1.4. Emergency telephone number

: US only (800) 227-6666 or outside of the US +1 (650) 697-3600 (7:15 AM - 5:00 PM PST) **Emergency number**

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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2
Acute toxicity (oral) Category 4
Acute toxicity (inhalation:dust,mist) Category 4
Serious eye damage/eye irritation Category 2
Skin sensitization, Category 1
Germ cell mutagenicity Category 2

Highly flammable liquid and vapor Harmful if swallowed Harmful if inhaled Causes serious eye irritation May cause an allergic skin reaction Suspected of causing genetic defects

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)





Signal word (GHS US)

Hazard statements (GHS US)

: Danger

Highly flammable liquid and vapor Harmful if swallowed or if inhaled May cause an allergic skin reaction

Causes serious eye irritation
Suspected of causing genetic defects

Precautionary statements (GHS US) : Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wash hands, forearms and face thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center or doctor if you feel unwell.

If on skin: Wash with plenty of water.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

Call a poison center or doctor if you feel unwell.

Specific treatment (see supplemental first aid instruction on this label).

Rinse mouth.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use media other than water to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container to hazardous or special waste collection point, in accordance with

local, regional, national and/or international regulation.

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2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Trade secret component*	CAS-No.: Trade	> 90
	Secret	

^{*}Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.

This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if

you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison

center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin

irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. Hazardous decomposition products in case of fire : Toxic fumes may be released.

SK-4805 VUS-LBL-01915

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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing

dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground/bond container and receiving equipment. Use only non-sparking tools. Take

precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special

instructions before use. Do not handle until all safety precautions have been read and

understood. Use only outdoors or in a well-ventilated area. Avoid breathing

dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated

clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands

after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

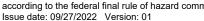
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ImmPACT® NovaRED® Reagent 3

No additional information available

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Trade secret component		
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA [ppm]	20 ppm	
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: Skin; A4 (Not classifiable as a Human Carcinogen)	
Regulatory reference	ACGIH 2022	
USA - OSHA - Occupational Exposure Limits		
OSHA PEL TWA [1]	70 mg/m³	
OSHA PEL TWA [2]	40 ppm	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1	

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

land protection:	
Protective gloves	
ye protection:	
Safety glasses	
kin and body protection:	
Vear suitable protective clothing	
Respiratory protection:	
Vear respiratory protection.	

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color Pale to dark brown Odor No data available Odor threshold No data available рΗ : No data available Melting point : Not applicable Freezing point : No data available Boiling point : > 180 °F Flash point : ≥ 36 °F

Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Not applicable. : No data available Vapor pressure : No data available Relative vapor density at 20 °C

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Relative density : No data available Solubility No data available Partition coefficient n-octanol/water (Log Pow) : No data available Auto-ignition temperature : No data available : No data available Decomposition temperature : No data available Viscosity, kinematic Viscosity, dynamic : No data available **Explosion limits** : No data available Explosive properties : No data available : No data available Oxidizing properties

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Harmful if inhaled.

ImmPACT® NovaRED® Substrate, Peroxidase (HRP)	
ATE US (oral)	500 mg/kg body weight
ATE US (dust, mist)	1.595 mg/l/4h
Trade secret component	
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Trade secret component

NOAEC (inhalation,rat,gas,90 days) 400 ppm Animal: rat, Guideline: other:

Aspiration hazard : Not classified Viscosity, kinematic : No data available

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse

effects in the environment.

Trade secret component	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Oryzias latipes
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	> 960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	960 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	102 mg/l Test organisms (species): Oryzias latipes Duration: '21 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Trade secret component	
Partition coefficient n-octanol/water (Log Pow)	-0.3 Source: ICSC

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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14.1. UN number

DOT NA No : UN1993 UN-No. (IMDG) : 1993 UN-No. (IATA) : 1993

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Flammable liquids, n.o.s.

Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.

Proper Shipping Name (IATA) : Flammable liquid, n.o.s.

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3
Hazard labels (DOT) : 3



IMDG

Transport hazard class(es) (IMDG) : 3
Hazard labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3
Hazard labels (IATA) : 3



14.4. Packing group

Packing group (DOT) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1993

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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DOT Special Provisions (49 CFR 172.102)

: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal................. 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when

the flash point of the hazardous material transported is greater than 0 C (32 F).

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L
CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49

CFR 175.75)

DOT Vessel Stowage Location

: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

: 60 L

IMDG

Special provision (IMDG): 274Limited quantities (IMDG): 1 LExcepted quantities (IMDG): E2Packing instructions (IMDG): P001IBC packing instructions (IMDG): IBC02Tank instructions (IMDG): T7

Tank special provisions (IMDG) : TP1, TP28, TP8

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER

Stowage category (IMDG) : B

IATA

: E2 PCA Excepted quantities (IATA) PCA Limited quantities (IATA) Y341 PCA limited quantity max net quantity (IATA) 1L 353 PCA packing instructions (IATA) PCA max net quantity (IATA) : 5L CAO packing instructions (IATA) : 364 : 60L CAO max net quantity (IATA) Special provision (IATA) : A3 ERG code (IATA) : 3H

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Trade secret component	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Trade secret component()	U.S Massachusetts - Right To Know List; U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Custom SDS USA VECTOR

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION 1: Identification

1.1. Identification

Product form : Mixture

: ImmPACT® NovaRED® Substrate Kit, Peroxidase Product name

Product code : SK-4805

Kit component : ImmPACT® NovaRED® Reagent 4

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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1.3. Supplier

Manufacturer

Vector Laboratories, Inc. 6737 Mowry Ave Newark, CA 94560 U.S.A

T (650) 697-3600 - F (650) 697-0339 customerservice@vectorlabs.com

1.4. Emergency telephone number

Emergency number : US only (800) 227-6666 or outside of the US +1 (650) 697-3600 (7:15 AM - 5:00 PM PST)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer

to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the

product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ImmPACT® NovaRED® Reagent 4

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Colorless

Odor No data available Odor threshold No data available рΗ No data available Melting point Not applicable Freezing point No data available Boiling point No data available : No data available Flash point Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Not applicable. Vapor pressure No data available Relative vapor density at 20 °C No data available No data available Relative density Solubility No data available Partition coefficient n-octanol/water (Log Pow) No data available Auto-ignition temperature No data available Decomposition temperature No data available : No data available Viscosity, kinematic Viscosity, dynamic : No data available **Explosion limits** : No data available Explosive properties : No data available

9.2. Other information

Oxidizing properties

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

: No data available

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

: Not classified Acute toxicity (oral) Acute toxicity (dermal) Not classified Acute toxicity (inhalation) Not classified : Not classified Skin corrosion/irritation : Not classified Serious eye damage/irritation Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified Carcinogenicity : Not classified Reproductive toxicity Not classified STOT-single exposure Not classified STOT-repeated exposure : Not classified Aspiration hazard : Not classified No data available Viscosity, kinematic

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012) Issue date: 09/27/2022 Version: 01



hydrogen peroxide solution % (7722-84-1)		
Not subject to reporting requirements of the United States SARA Section 313		
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb	

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
, , ,	U.S New Jersey - Right to Know Hazardous Substance List; U.S New York City - Right to Know Hazardous Substances List; U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Custom_SDS_USA_VECTOR

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.