

# Safety Data Sheet

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



## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Product name : QuantTag™ Biotin Quantitation Kit  
Product code : BDK-2000  
Kit component : Reagent 1

### 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](mailto: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.

# Safety Data Sheet

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



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.

## 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.

# Safety Data Sheet

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Reagent 1</b>
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

<b>Hand protection:</b>
Protective gloves
<b>Eye protection:</b>
Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
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  
pH : No data available  
Melting point : Not applicable  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
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

# Safety Data Sheet

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



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

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

### 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  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Viscosity, kinematic : No data available

## 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

# Safety Data Sheet

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



## 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  
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

# Safety Data Sheet

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



## 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

### 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.

## SECTION 1: Identification

### 1.1. Identification

Product form : Mixture  
Product name : QuantTag™ Biotin Quantitation Kit  
Product code : BDK-2000

# Safety Data Sheet

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



Kit component : Reagent 2

## 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](mailto: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

Name	Product identifier	%
Trade secret compound*	CAS-No.: Trade Secret	< 1

\*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.

# Safety Data Sheet

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



## 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.

## 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.



# Safety Data Sheet

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

## 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

<b>Reagent 2</b>	
No additional information available	
<b>Trade secret compound</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	0.2 mg/m <sup>3</sup> (T - Thoracic particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm func. Notations: A2 (Suspected Human Carcinogen. Classification refers to sulfuric acid contained in strong inorganic acid mists)
Regulatory reference	ACGIH 2022
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	1 mg/m <sup>3</sup>
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

<b>Hand protection:</b>
Protective gloves
<b>Eye protection:</b>
Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
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

# Safety Data Sheet

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



Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
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
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

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

### 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

<b>Trade secret compound</b>	
LD50 oral rat	2140 mg/kg Source: ECHA
LC50 Inhalation - Rat	0.375 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation : Not classified

# Safety Data Sheet

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



Serious eye damage/irritation : Not classified  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified.

<b>Trade secret compound</b>	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified  
Viscosity, kinematic : No data available

## 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.

<b>Trade secret compound</b>	
LC50 - Fish [1]	16 – 28 mg/l Source: ECHA, NCIS
EC50 - Crustacea [1]	> 100 mg/l Source: ECHA
NOEC (chronic)	0.15 mg/l Test organisms (species): other:
NOEC chronic fish	0.31 mg/l Test organisms (species): Salvelinus fontinalis

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

<b>Trade secret compound</b>	
Partition coefficient n-octanol/water (Log Pow)	-2.2 Source: HSDB

### 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

# Safety Data Sheet

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



## 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

#### Trade secret compound

Subject to reporting requirements of United States SARA Section 313  
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb

# Safety Data Sheet

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



## 15.2. International regulations

### Trade secret compound

Listed as carcinogen on NTP (National Toxicology Program)

## 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 compound()	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  
Product name : QuantTag™ Biotin Quantitation Kit  
Product code : BDK-2000  
Kit component : Reagent 3

### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

# Safety Data Sheet

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



## 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](mailto: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	Highly flammable liquid and vapor
Acute toxicity (oral) Category 4	Harmful if swallowed
Acute toxicity (inhalation:dust,mist) Category 4	Harmful if inhaled
Serious eye damage/eye irritation Category 2	Causes serious eye irritation

### 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  
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 equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing mist, spray, vapors.  
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, eye protection.  
If swallowed: Call a 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 carbon dioxide (CO<sub>2</sub>), alcohol resistant foam, dry extinguishing powder, foam 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.

# Safety Data Sheet

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



## 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 compound*	CAS-No.: Trade Secret	99

\*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.

# Safety Data Sheet

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



## 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. 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

<b>Reagent 3</b>	
No additional information available	
<b>Trade secret compound</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
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
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL TWA [1]	70 mg/m <sup>3</sup>



# Safety Data Sheet

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

<b>Trade secret compound</b>	
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

<b>Hand protection:</b>
Protective gloves
<b>Eye protection:</b>
Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
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
Color	: Colorless
Odor	: No data available.
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 178 °F (estimated value)
Flash point	: ≈ 36 °F (estimated value)
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
Explosive properties	: No data available

# Safety Data Sheet

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



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

Reagent 3	
ATE US (oral)	505.051 mg/kg body weight
ATE US (dust, mist)	1.515 mg/l/4h
Trade secret compound	
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  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified

# Safety Data Sheet

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



<b>Trade secret compound</b>	
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.

<b>Trade secret compound</b>	
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

<b>Trade secret compound</b>	
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.

# Safety Data Sheet

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

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 (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

# Safety Data Sheet

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



DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L  
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  
CAO max net quantity (IATA) : 60L  
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 compound

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

# Safety Data Sheet

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



Component	State or local regulations
Trade secret compound()	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  
Product name : QuantTag™ Biotin Quantitation Kit  
Product code : BDK-2000  
Kit component : Biotin Standard Solution

### 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](mailto: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)

# Safety Data Sheet

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



## 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.

# Safety Data Sheet

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



## 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

#### Biotin Standard Solution

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



# Safety Data Sheet

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

## 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
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
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
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

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

# Safety Data Sheet

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



## 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
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

## 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

# Safety Data Sheet

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



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

### sodium azide (26628-22-8)

Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	1000 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 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

## Safety Data Sheet

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



### 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.