

Kit Components

Product code	Description
3040-0010	NeoBase Non-derivatized MSMS kit 3040-0010, 3040-001U

Components:

13806244	Acylcarnitines Internal Standard
13807654	Amino Acids Internal Standards (NeoBase)
13806181	NeoBase Controls Low, High

Safety Data Sheet according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

1 Identification

- **Product identifier**
- **Trade name:** Acylcarnitines Internal Standard
- **Article number:** 13806244
- **Application of the substance / the mixture**
Laboratory chemicals
In vitro diagnostics
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard identification

- **Classification of the substance or mixture**



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard-determining components of labeling:**

DL-Carnitine-d9 HCl (trimethyl-d9)

Octadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

Hexadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

Tetradecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Acylcarnitines Internal Standard*

(Contd. of page 1)

- **Hazard statements**

Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

- **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
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/doctor if you feel unwell.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

45.2 % of the mixture consists of an ingredient or ingredients of unknown acute toxicity.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3 Composition/Information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

1219386-75-0	DL-Carnitine-d9 HCl (trimethyl-d9)	20-50% w/w *
2245711-27-5	Octadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)	≥5-<10% w/w *
1334532-26-1	Hexadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)	≥5-<10% w/w *
1334532-25-0	Tetradecanoyl-L-carnitine-d3 HCl (N-methyl-d3)	≥5-<10% w/w *
2687960-76-3	Dodecanoyl-L-carnitine-d3 HCl (N-methyl-d3)	≥5-<10% w/w *
1334532-17-0	Acetyl-L-carnitine-d3 HCl (N-methyl-d3)	≥5-<10% w/w *
1334532-19-2	Propionyl-L-carnitine-d3 HCl (N-methyl-d3)	2.5-5% w/w *
2483831-87-2	Decanoyl-L-carnitine-d3 HCl (N-methyl-d3)	2.5-5% w/w *
1334532-24-9	Octanoyl-L-carnitine-d3 HCl (N-methyl-d3)	2.5-5% w/w *
2483831-95-2	Hexanoyl-L-carnitine-d3 HCl (N-methyl-d3)	2.5-5% w/w *
	Isovaleryl-DL-carnitine-d9 HCl (N,N,N-trimethyl-d9)	2.5-5% w/w *
1334532-21-6	Butyryl-L-carnitine-d3 HCl (N-methyl-d3)	2.5-5% w/w *

* Actual concentration ranges are withheld as a trade secret.

(Contd. on page 3)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Acylcarnitines Internal Standard*

(Contd. of page 2)

· Other ingredients	
D6-DL-C5DC	2.5-5% w/w

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

(Contd. on page 4)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Acylcarnitines Internal Standard*

(Contd. of page 3)

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

* 9 Physical and chemical properties

- | | |
|--|------------------------------------|
| · Information on basic physical and chemical properties | |
| · General Information | |
| · Appearance: | |
| Form: | Solid |
| Color: | According to product specification |
| · Odor: | Characteristic |
| · Odor threshold: | Not determined. |
| · pH-value: | Not applicable. |
| · Change in condition | |
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | Undetermined. |
| · Flash point: | Not applicable. |

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Acylcarnitines Internal Standard*

(Contd. of page 4)

· Flammability (solid, gaseous):	<i>Not determined.</i>
· Decomposition temperature:	<i>Not determined.</i>
· Ignition temperature:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapor pressure:	<i>Not applicable.</i>
· Density:	<i>Not determined.</i>
· Relative density	<i>Not determined.</i>
· Vapor density	<i>Not applicable.</i>
· Evaporation rate	<i>Not applicable.</i>
· Solubility in / Miscibility with Water:	<i>Insoluble.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not applicable.</i>
Kinematic:	<i>Not applicable.</i>
· Solvent content:	
Solids content:	<i>94.4 %</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *Irritant to skin and mucous membranes.*
- **on the eye:** *Irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:*
- Irritant*
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
- None of the ingredients is listed.*

(Contd. on page 6)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Acylcarnitines Internal Standard*

(Contd. of page 5)

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | Void |
| · DOT/TDG, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT/TDG, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT/TDG, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: Acylcarnitines Internal Standard

(Contd. of page 6)

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

None of the ingredients is listed.

· **Canadian substance listings:**· **Canadian Domestic Substances List (DSL)**

None of the ingredients is listed.

· **Canadian Non-Domestic Substances List (NDSL)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS07

· **Signal word** Warning· **Hazard-determining components of labeling:**

DL-Carnitine-d9 HCl (trimethyl-d9)

Octadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

Hexadecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

Tetradecanoyl-L-carnitine-d3 HCl (N-methyl-d3)

· **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

If on skin: Wash with plenty of water.

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/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 8)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: Acylcarnitines Internal Standard

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

(Contd. of page 7)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department.
- **Contact:** MSDS_Turku@revvity.com
- **Date of the latest revision of the safety data sheet** 02/16/2024

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

- *** Data compared to the previous version altered.**

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

1 Identification

- **Product identifier**
- **Trade name:** Amino Acids Internal Standards (NeoBase)
- **Article number:** 13807654
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard identification

- **Classification of the substance or mixture**



Eye Irritation - Category 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** Warning
- **Hazard statements**
Causes serious eye irritation.
- **Precautionary statements**
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Amino Acids Internal Standards (NeoBase)*

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 2 Health = 2
FIRE 0 Fire = 0
REACTIVITY 0 Reactivity = 0

3 Composition/Information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

347841-40-1	L-Ornithine-3,3,4,4,5,5-d6 hydrochloride (S)-(+)-2,5-Diaminopentanoic acid-3,3,4,4,5,5-d6 hydrochloride (S)-2,5-Diaminopentanoic acid-3,3,4,4,5,5-d6 monohydrochloride L-Ornithine-3,3,4,4,5,5-d6 monohydrochloride	≥5-<10% w/w *
	3-(5-methyl[methyl-13C]-1H-pyratsol[3,4,5-13C3]-3-yl)propionic[3-13C] acid	≥5-<10% w/w *

* Actual concentration ranges are withheld as a trade secret.

· **Other ingredients**

91795-59-4	Glycine-2-13C,15N	10-20% w/w
201595-63-3	L-Tyrosine-(phenyl-13C6)	5-10% w/w
1786448-45-0	L-Arginine-13C,d4 Dihydrochloride L-Arginine-5-13C,4,4,5,5-d4	5-10% w/w
1021439-17-7	L-Citrulline-5,5-d2 (S)-2-Amino-5-ureidopentanoic-5,5-d2 acid L-2-Amino-5-ureidovaleric-5,5-d2 acid	5-10% w/w
180268-82-0	L-Phenyl-13C6-alanine	5-10% w/w
13070-53-2	L-Methionine-methyl-d3	5-10% w/w
87828-86-2	L-Leucine-5,5,5-d3	5-10% w/w
35045-72-8	L-Valine-d8	5-10% w/w
201740-83-2	L-Proline-13C5	5-10% w/w
18806-29-6	L-Alanine-2,3,3,3-d4	2.5-5% w/w

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 3)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: Amino Acids Internal Standards (NeoBase)

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Amino Acids Internal Standards (NeoBase)*

(Contd. of page 3)

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Solution
· Color:	White
· Odor:	Characteristic
· Odor threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapor pressure at 20 °C:** 23 hPa

· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Amino Acids Internal Standards (NeoBase)*

(Contd. of page 4)

- | | |
|---|---|
| · Solubility in / Miscibility with Water: | <i>Insoluble.</i> |
| · Partition coefficient (n-octanol/water): | <i>Not determined.</i> |
| · Viscosity: | |
| Dynamic: | <i>Not applicable.</i> |
| Kinematic: | <i>Not applicable.</i> |
| · Solvent content: | |
| Solids content: | <i>0.2 %</i> |
| · Other information | <i>No further relevant information available.</i> |

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**
 - **Primary irritant effect:**
 - **on the skin:** *No irritant effect.*
 - **on the eye:** *Irritating effect.*
 - **Sensitization:** *No sensitizing effects known.*
 - **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
 - **Carcinogenic categories**
- | | |
|---|---|
| · IARC (International Agency for Research on Cancer) | <i>None of the ingredients is listed.</i> |
| · NTP (National Toxicology Program) | <i>None of the ingredients is listed.</i> |

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behavior in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*
- **Mobility in soil** *No further relevant information available.*
- **Additional ecological information:**
- **General notes:** *Not hazardous for water.*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*

(Contd. on page 6)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: *Amino Acids Internal Standards (NeoBase)*

(Contd. of page 5)

- **vPvB:** *Not applicable.*
- **Other adverse effects** *No further relevant information available.*

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** *Hand over to hazardous waste disposers.*
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- **UN-Number**
- **DOT/TDG, ADR, ADN, IMDG, IATA** *Void*
- **UN proper shipping name**
- **DOT/TDG, ADR, ADN, IMDG, IATA** *Void*
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** *Void*
- **Packing group**
- **DOT/TDG, ADR, IMDG, IATA** *Void*
- **Environmental hazards:**
- **Marine pollutant:** *No*
- **Special precautions for user** *Not applicable.*
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*
- **UN "Model Regulation":** *Void*

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):***None of the ingredients is listed.*· **Section 313 (Specific toxic chemical listings):***None of the ingredients is listed.*· **TSCA (Toxic Substances Control Act):***None of the ingredients is listed.*· **Canadian substance listings:**· **Canadian Domestic Substances List (DSL)**

91795-59-4 | Glycine-2-13C,15N

(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: Amino Acids Internal Standards (NeoBase)

(Contd. of page 6)

201595-63-3	<i>L</i> -Tyrosine-(phenyl-13C6)
347841-40-1	<i>L</i> -Ornithine-3,3,4,4,5,5-d6 hydrochloride (<i>S</i>)-(+)-2,5-Diaminopentanoic acid-3,3,4,4,5,5-d6 hydrochloride (<i>S</i>)-2,5-Diaminopentanoic acid-3,3,4,4,5,5-d6 monohydrochloride <i>L</i> -Ornithine-3,3,4,4,5,5-d6 monohydrochloride

· Canadian Non-Domestic Substances List (NDSL)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms


GHS07

· Signal word *Warning*
· Hazard statements
Causes serious eye irritation.
· Precautionary statements
*Wash thoroughly after handling.**Wear protective gloves/protective clothing/eye protection/face protection.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**If eye irritation persists: Get medical advice/attention.*
· Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: *Product safety department.*
· Contact: *MSDS_Turku@revvity.com*
· Date of the latest revision of the safety data sheet *02/16/2024*
· Abbreviations and acronyms:
*IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative*
· * Data compared to the previous version altered.

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

1 Identification

- **Product identifier**
- **Trade name:** NeoBase Controls Low, High
- **Article number:** 13806181
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements**
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3 Composition/Information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Void

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: NeoBase Controls Low, High

(Contd. of page 1)

· Other ingredients		
60-18-4	tyrosine	<0.1% w/w
56-40-6	glycine	<0.1% w/w
56-41-7	L-alanine	<0.1% w/w
63-91-2	3-phenyl-L-alanine	<0.1% w/w

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

CA
(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: NeoBase Controls Low, High

(Contd. of page 2)

8 Exposure controls/ Personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Solution
Color:	White
Odor:	Characteristic
Odor threshold:	Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Decomposition temperature:** Not determined.
- **Ignition temperature:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

(Contd. on page 4)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: NeoBase Controls Low, High

(Contd. of page 3)

· Vapor pressure at 20 °C:	23 hPa
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
Solids content:	0.2 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: NeoBase Controls Low, High

(Contd. of page 4)

- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | Void |
| · DOT/TDG, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT/TDG, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT/TDG, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

60-18-4	tyrosine	ACTIVE
56-40-6	glycine	ACTIVE
56-41-7	L-alanine	ACTIVE

(Contd. on page 6)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 02/16/2024

Reviewed on 02/12/2024

Trade name: NeoBase Controls Low, High

(Contd. of page 5)

63-91-2	3-phenyl-L-alanine	ACTIVE
72-18-4	valine	ACTIVE
147-85-3	L-proline	ACTIVE
372-75-8	citrulline	ACTIVE
63-68-3	L-methionine	ACTIVE
461-05-2	DL-carnitine hydrochloride	ACTIVE
61-90-5	L-leucine	ACTIVE

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

60-18-4	tyrosine
56-40-6	glycine
56-41-7	L-alanine
63-91-2	3-phenyl-L-alanine
72-18-4	valine
147-85-3	L-proline
63-68-3	L-methionine
61-90-5	L-leucine

· **Canadian Non-Domestic Substances List (NDSL)**

372-75-8	citrulline
461-05-2	DL-carnitine hydrochloride

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@revvity.com

· **Date of the latest revision of the safety data sheet** 02/16/2024

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

· *** Data compared to the previous version altered.**