

Amino Acid Derivatives

Finechemical Products

2010/1



Dear Valued Partner,

Welcome to Reanal's new edition product list of fine chemicals and amino acid derivatives.

Reanal is a custom semi-bulk and bulk synthesis company that manufactures and provides materials for its customers according to their specification. **Most of the common derivatives are available from stock in bulk quantities.**

New in this catalog

- Quality is always in our focus. We are introducing a new quality for the Fmoc-amino acids: **Fmoc-amino acids with extreme low β -alanine content.** This amino acid can pose serious problems in the final purification steps of the crude peptide. Our renewed quality at the same price level can provide significant improvement in final peptide quality due to our refined processes.
- **We entered the unnatural amino acid arena!** Fmoc-Aib-OH and the most common 4-nitrophenylalanine is available. Please let us know what type of unnatural amino acid derivatives you were be interested in semi-bulk or bulk quantities!

About this collection

- The listed compounds are usually routinely synthesized in Reanal, however, some of them are produced only upon request. Please check their availability before placing an order.
- It is to be emphasized that we also undertake synthesis of the same compounds with different purity requirements and stricter limits. Just send us your purchase specification together with your inquiry.
- Besides the pack sizes shown each compound is available in any other pack size according to the customer's wish. We are ready to serve individual demands and requirements, too.

Manufacturing background

- All protected amino acids and finechemicals are synthesized by Reanal within its own manufacturing facility.
- Free amino acids are purchased from selected and traceable sources, manufactured with safe technologies.

Quality

- In this collection we provide the internal specifications which are used routinely for the release of the compounds. Other parameters can be tested and will be declared in the Certificate of Analysis.
- D/L-enantiomer content of amino acids and related compounds is always tested and certified. These determinations are available in-house.
- Reanal has been a reliable source of non-human, non-animal origin amino acid derivatives for a long time. TSE/BSE declaration is available upon request.
- Reanal is an ISO 9001 certified company since 1996. Our operation and processes are based on GMP principles and can be audited at any time by our esteemed partners.

Yours faithfully,

Reanal Private Ltd.

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Boc-Aib-ol	
<i>N-t-Boc-2-amino-2-methyl-1-propanol</i>	
C ₉ H ₁₉ NO ₃ , M=189.25 CAS[102520-97-8] HS-code: 292419 00 90 Storage: 15-25 °C	
22810-2-14-25	for synthesis 100 g
22810-2-14-33	for synthesis 500 g
22810-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (GC)	min. 98.0%
Melting range	57.0-62.0 °C
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 0.5%
Potential residual solvents	to be reported

Boc-Ala-OH	
<i>N-α-t-Boc-L-alanine</i>	
C ₈ H ₁₅ NO ₄ , M=189.21 CAS[15761-38-3], EINECS:[239-847-8] HS-code: 292419 00 90 S: 22-24/25 Storage: 15-25 °C	
22840-2-14-25	for synthesis 100 g
22840-2-14-33	for synthesis 500 g
22840-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	70.0-90.0 °C
[α] _D ²⁰ (c=2; AcOH)	-24.5° ~ -26.5°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.3%
Potential residual solvents	to be reported

Boc-β-Ala-OH	
<i>N-α-t-Boc-β-alanine</i>	
C ₈ H ₁₅ NO ₄ , M=189.21 CAS[3303-84-2], EINECS:[221-979-2] HS-code: 292419 00 90 S: 22-24/25 Storage: 15-25 °C	
35070-2-14-25	for synthesis 100 g
35070-2-14-33	for synthesis 500 g
35070-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	75.0-79.0 °C
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
Potential residual solvents	to be reported

Boc-Ala-OSu	
<i>N-α-t-Boc-L-alanine N-hydroxysuccinimid ester</i>	
C ₁₂ H ₁₈ N ₂ O ₆ , M=286.28 CAS[3392-05-0] HS-code: 292429 98 99 Storage: below 10 °C	
22850-2-14-25	for synthesis 100 g
22850-2-14-33	for synthesis 500 g
22850-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (N)	97.0-103.0%
Melting range	159.0-163.0 °C
[α] _D ²⁰ (c=2; dioxane)	-50.0° ~ -54.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (HPLC)	min. 97.0%
Boc-Ala-OH (HPLC)	max. 2.0%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Boc-Arg-OH·HCl·H ₂ O	
<i>N-α-t-Boc-L-arginine hydrochloride monohydrate</i>	
C ₁₁ H ₂₂ N ₄ O ₄ ·HCl·H ₂ O, M=328.78 CAS[35897-34-8] HS-code: 292419 00 90 S: 22-24/25 Storage: 15-25 °C	
28880-2-14-25	for synthesis 100 g
28880-2-14-33	for synthesis 500 g
28880-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (AT, anhydrous)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 100 Hazen
Melting range	105.0-120.0 °C
[α] _D ²⁰ (c=2; H ₂ O)	-8.0° ~ -9.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	4.4-6.6%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
H-Arg-OH (TLC)	max. 0.25%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.2%
H-Orn-OH	max. 0.4%
Potential residual solvents	to be reported

Boc-D-Arg-OH·HCl·H ₂ O	
<i>N-α-t-Boc-D-arginine hydrochloride monohydrate</i>	
C ₁₁ H ₂₂ N ₄ O ₄ ·HCl·H ₂ O, M=328.78 CAS[114622-81-0] HS-code: 292419 00 90 S: 22-24/25 Storage: 15-25 °C	
44230-2-14-25	for synthesis 100 g
44230-2-14-33	for synthesis 500 g
44230-2-14-43	for synthesis kg
Specification	
Appearance	white to off-white powder
Identity (IR)	passes test
Assay (AT, anhydrous)	98.0-102.0%
Melting range	105.0-120.0 °C
[α] _D ²⁰ (c=2; H ₂ O)	+8.0° ~ +9.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 7.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
L-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Boc-Arg(NO₂)-OH*N-α-t-Boc-N-ω-nitro-L-arginine-xEtOAc*C₁₁H₂₁N₅O₆, M=319.31

CAS[2188-18-3], EINECS:[218-580-0]

HS-code: 292419 00 90



R: 36/37/38, S: 2-26-36

Storage: below 10 °C

23300-2-14-25	for synthesis	100 g
23300-2-14-33	for synthesis	500 g
23300-2-14-43	for synthesis	kg

Specification

Appearance	white to yellowish powder
Identity (IR)	passes test
Assay (T, EtOAc-free)	98.0-102.0%
[α] _D ²⁰ (c=1; pyridine, EtOAc-free)	-22.0° ~ -26.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Ethyl acetate (GC)	max. 15.0%

Boc-Arg(Tos)-OH*N-α-t-Boc-ω-tosyl-L-arginine-xEtOAc*C₁₈H₂₈N₄O₆S, M=428.50

CAS[13836-37-8], EINECS:[237-549-2]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

23311-2-14-25	for synthesis	100 g
23311-2-14-33	for synthesis	500 g
23311-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, EtOAc-free)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 100 Hazen
Melting range	74.0-93.0 °C
[α] _D ²⁰ (c=1; DMF)	-2.9° ~ -3.9°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
Boc-Arg-OH (TLC)	max. 1%
H-Arg-OH (TLC)	max. 0.5%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Ethyl acetate (GC)	max. 15.0%

Boc-D-Arg(Tos)-OH*N-α-t-Boc-ω-tosyl-D-arginine-xEtOAc*C₁₈H₂₈N₄O₆S, M=428.50

CAS[61315-61-5]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

23591-2-14-43	for synthesis	kg
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Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, EtOAc-free)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 100 Hazen
Melting range	74.0-93.0 °C
[α] _D ²⁰ (c=1; DMF)	+2.9° ~ +3.9°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
L-enantiomer	max. 0.5%
Ethyl acetate (GC)	max. 15.0%

Boc-Asn-OH*N-α-t-Boc-L-asparagine*C₉H₁₆N₂O₅, M=232.24

CAS[7536-55-2], EINECS:[231-405-2]

HS-code: 292419 00 90

S: 22-24/25

Storage: 15-25 °C

22860-2-14-25	for synthesis	100 g
22860-2-14-33	for synthesis	500 g
22860-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	165.0-175.0 °C
[α] _D ²⁰ (c=2; DMF)	-6.0° ~ -8.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 0.5%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
H-Asn-OH (TLC)	max. 0.5%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.3%
Potential residual solvents	to be reported

Boc-D-Asn-OH*N-α-t-Boc-D-asparagine*C₉H₁₆N₂O₅, M=232.24

CAS[75647-01-7]

HS-code: 292419 00 90

S: 22-24/25

Storage: 15-25 °C

37990-2-14-25	for synthesis	100 g
37990-2-14-33	for synthesis	500 g
37990-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	165.0-175.0 °C
[α] _D ²⁰ (c=2; DMF)	+6.0° ~ +8.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
L-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Boc-Asn(Xan)-OH*N*- α -*t*-Boc-*N*- β -xanthyl-*L*-asparagineC₂₂H₂₄N₂O₆, M=412.43

CAS[65420-40-8]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

23270-2-14-25 for synthesis 100 g
 23270-2-14-33 for synthesis 500 g
 23270-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 100 Hazen
 Melting range 170.0-185.0 °C
 $[\alpha]_D^{25}$ (c=1; MeOH) +9.0° ~ +11.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Asn-ONp*N*- α -*t*-Boc-*L*-asparagine 4-nitrophenyl esterC₁₅H₁₉N₃O₇, M=353.33

CAS[4587-33-1]

HS-code: 292429 98 99

Storage: below 10 °C

22870-2-14-25 for synthesis 100 g
 22870-2-14-33 for synthesis 500 g
 22870-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 Melting range 148.0-154.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -34.0° ~ -38.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 98.0%
 Boc-Asn-OH (HPLC) max. 0.1 area%
 D-enantiomer max. 0.3%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Boc-Asp(OBzl)-OH*N*- α -*t*-Boc-*L*-aspartic acid β -benzyl esterC₁₆H₂₁NO₆, M=323.35

CAS[7536-58-5], EINECS:[231-406-8]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22890-2-14-25 for synthesis 100 g
 22890-2-14-33 for synthesis 500 g
 22890-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.4 mmol/ml THF) clear, max. 100 Hazen
 Melting range 98.0-105.0 °C
 $[\alpha]_D^{25}$ (c=2; DMF) -18.5° ~ -21.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Asp(OBzl)-OH (TLC) max. 0.25%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-D-Asp(OBzl)-OH*N*- α -*t*-Boc-*D*-aspartic acid β -benzyl esterC₁₆H₂₁NO₆, M=323.35

CAS[51186-58-4]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

43850-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 98.0-108.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) +18.7° ~ +22.7°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Asp(OBzl)-OSu*N*- α -*t*-Boc-*L*-aspartic acid- β -benzyl ester α -*N*-hydroxysuccinimid esterC₂₀H₂₄N₂O₈, M=420.42

CAS[13798-75-9]

HS-code: 292429 98 99

Storage: below 0 °C

42020-2-14-25 for synthesis 100 g
 42020-2-14-33 for synthesis 500 g
 42020-2-14-43 for synthesis kg

Specification

Appearance white to off-white
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 $[\alpha]_D^{25}$ (c=1; DMF) -28.0° ~ 32.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 97.0%
 Boc-Asp(OBzl)-OH (HPLC) max. 2.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Asp(OcHex)-OH*N*- α -*t*-Boc-*L*-aspartic acid β -cyclohexyl esterC₁₅H₂₅NO₆, M=315.37

CAS[73821-95-1]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

04890-2-14-25 for synthesis 100 g
 04890-2-14-33 for synthesis 500 g
 04890-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 89.0-98.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -18.8° ~ -24.2°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Asp-OBzl*N-α-t-Boc-L-aspartic acid α-benzyl ester*

C₁₆H₂₁NO₆, M=323.35
 CAS[30925-18-9]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

22880-2-14-25 for synthesis 100 g
 22880-2-14-33 for synthesis 500 g
 22880-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 93.0-104.0 °C
 [α]_D²⁰ (c=2; MeOH) -21.0° ~ -24.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Asp-OH (TLC) max. 0.25%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-D-Asp-OBzl*N-α-t-Boc-D-aspartic acid α-benzyl ester*

C₁₆H₂₁NO₆, M=323.35
 CAS[92828-64-3]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

45260-2-14-25 for synthesis 100 g
 45260-2-14-33 for synthesis 500 g
 45260-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 93.0-104.0 °C
 [α]_D²⁰ (c=2; MeOH) +21.0° ~ +24.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Gln-OH*N-α-t-Boc-L-glutamine*

C₁₀H₁₈N₂O₅, M=246.26
 CAS[13726-85-7], EINECS:[237-296-8]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: 15-25 °C

22930-2-14-25 for synthesis 100 g
 22930-2-14-33 for synthesis 500 g
 22930-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 110.0-125.0 °
 [α]_D²⁰ (c=1; DMF) -15.0° ~ -19.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Gln(Xan)-OH*N-α-t-Boc-N-γ-xanthyl-L-glutamine*

C₂₃H₂₆N₂O₆, M=426.5
 CAS[55260-24-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23520-2-14-25 for synthesis 100 g
 23520-2-14-33 for synthesis 500 g
 23520-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 100 Hazen
 Melting range 145.0-153.0 °C
 [α]_D²⁰ (c=1; DMF) -9.5° ~ -11.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Gln-ONp*N-α-t-Boc-L-glutamine p-nitrophenyl ester*

C₁₆H₂₁N₃O₇, M=367.36
 CAS[15387-45-8]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22950-2-14-25 for synthesis 100 g
 22950-2-14-33 for synthesis 500 g
 22950-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 95.0-102.0%
 [α]_D²⁰ (c=1; DMF) -30.0° ~ -34.0°
 Melting range 144.0-154.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 98.0%
 Boc-Gln-OH (HPLC) max. 0.1 area%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Glu-OH*N-α-t-Boc-L-glutamic acid*

C₁₀H₁₇NO₆, M=247.25
 CAS[2419-94-5]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: below 10 °C

43950-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max 100 Hazen
 Melting range 109.0-119.0 °C
 [α]_D²⁰ (c=1; MeOH) -13.5° ~ -15.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Glu(OBzl)-OH*N*- α -*t*-Boc-*L*-glutamic acid γ -benzyl esterC₁₇H₂₃NO₆, M=337.37

CAS[13574-13-5], EINECS:[237-007-5]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

22990-2-14-25 for synthesis 100 g
 22990-2-14-33 for synthesis 500 g
 22990-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 62.0-72.0 °C
 $[\alpha]_D^{20}$ (c=1; DMF) -15.0° ~ -18.0°
 Residue on ignition (SO₂) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 H-Glu(OBzl)-OH (TLC) max. 0.25%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Glu(OcHex)-OH*N*- α -*t*-Boc-*L*-glutamic acid γ -cyclohexyl esterC₁₆H₂₇NO₆, M=329.39

CAS[73821-97-3]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

23010-2-14-25 for synthesis 100 g
 23010-2-14-33 for synthesis 500 g
 23010-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T, dried substance) 98.0-102.0%
 Melting range 51.0-66.0 °C
 $[\alpha]_D^{20}$ (c=2; DMF) -15.5° ~ -17.5°
 Residue on ignition (SO₂) max. 0.2%
 Loss on drying (45 °C, vac.) max. 5.0%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Glu-OBzl*N*- α -*t*-Boc-*L*-glutamic acid α -benzyl esterC₁₇H₂₃NO₆, M=337.37

CAS[30924-93-7]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

22960-2-14-25 for synthesis 100 g
 22960-2-14-33 for synthesis 500 g
 22960-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 94.0-100.0 °C
 $[\alpha]_D^{20}$ (c=1; MeOH) -29.0° ~ -33.0°
 Residue on ignition (SO₂) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-D-Glu-OBzl*N*- α -*t*-Boc-*D*-glutamic acid α -benzyl esterC₁₇H₂₃NO₆, M=337.37

CAS[34404-30-3]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

22820-2-14-25 for synthesis 100 g
 22820-2-14-33 for synthesis 500 g
 22820-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 95.0-100.0 °C
 $[\alpha]_D^{20}$ (c=1; MeOH) +29.0° ~ +33.0°
 Residue on ignition (SO₂) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Gly-OH*N*- α -*t*-Boc-glycineC₇H₁₃NO₄, M=175.18

CAS[4530-20-5], EINECS:[224-864-5]

HS-code: 292419 00 90

R: 41, S: 22-24/25-26-39

Storage: 15-25 °C

23530-2-14-25 for synthesis 100 g
 23530-2-14-33 for synthesis 500 g
 23530-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 85.0-90.0 °C
 Residue on ignition (SO₂) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 H-Gly-OH (TLC) max. 0.2%
 Chromatographic purity (HPLC) min. 98.0%
 Potential residual solvents to be reported

Boc-His-OH*N*- α -*t*-Boc-*L*-histidineC₁₁H₁₇N₃O₄, M=255.27

CAS[17791-52-5], EINECS:[241-768-9]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

23030-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 190.0-198.0 °C
 $[\alpha]_D^{20}$ (c=1; MeOH) +25.0° ~ +27.0°
 Residue on ignition (SO₂) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-His(Boc)-OH·DCHA

N-α-t-Boc-N(im)-t-Boc-L-histidine dicyclohexylammonium salt

C₁₈H₂₅N₃O₆·C₁₂H₂₃N, M=536.72
CAS[31687-58-8], EINECS:[250-764-6]
HS-code: 292429 98 99
S: 22-24/25

Storage: 15-25 °C

44320-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (T) 98.0-102.0%
[α]_D²⁰ (c=2; CHCl₃) +18.0° ~ +20.0°
Residue on ignition (SO₄) max. 0.2%
Water (KF) max. 1.0%
Chromatographic purity (TLC)
(1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
Chromatographic purity (HPLC) min. 98.0%
D-enantiomer max. 0.5%
Potential residual solvents to be reported

Boc-His(Tos)-OH

N-α-t-Boc-N(im)-toluene-4-sulfonyl-L-histidine

C₁₈H₂₃N₃O₆S, M=409.46
CAS[35899-43-5]
HS-code: 292429 98 99
S: 22-24/25

Storage: below -10 °C

39560-2-14-25 for synthesis 100 g
39560-2-14-33 for synthesis 500 g
39560-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (T) 98.0-102.0%
Solubility (0.5 mmol/ml DMF) clear, max. 100 Hazen
Melting range 115.0-123.0 °C
[α]_D²⁰ (c=1; MeOH) +14.2° ~ +17.4°
Residue on ignition (SO₄) max. 0.2%
Water (KF) max. 1.0%
Chromatographic purity (TLC)
(1)CHCl₃:MeOH:AcOH=85:10:5 (V/V) min. 97%
Chromatographic purity (HPLC) min. 97.0%
D-enantiomer max. 0.5%
Potential residual solvents to be reported

Boc-Hyp-OH

N-α-t-Boc-L-trans-4-hydroxyproline

C₁₀H₁₇NO₅, M=231.25
CAS[13726-69-7]
HS-code: 292429 98 99

Storage: 15-25 °C

23050-2-14-25 for synthesis 100 g
23050-2-14-33 for synthesis 500 g
23050-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (T) 98.0-102.0%
Melting range 122.0-128.0 °C
[α]_D²⁰ (c=1; DMF) -51.5° ~ -55.5°
Residue on ignition (SO₄) max. 0.2%
Water (KF) max. 1.0%
Chromatographic purity (TLC)
(1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
Chromatographic purity (HPLC) min. 98.0%
D-enantiomer max. 0.5%
Potential residual solvents to be reported

Boc-Ile-OH·½H₂O

N-α-t-Boc-L-isoleucine hemihydrate

C₁₁H₂₁NO₄·½H₂O, M=240.31
CAS[13139-16-7], EINECS:[236-074-8]
HS-code: 292419 00 90
S: 22-24/25

Storage: 15-25 °C

23041-2-14-25 for synthesis 100 g
23041-2-14-33 for synthesis 500 g
23041-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (T, anhydrous substance) 98.0-102.0%
Melting range 55.0-65.0 °C
[α]_D²⁰ (c=2; pyridine) -26.0° ~ -31.0°
Water (KF) max. 4.5%
Residue on ignition (SO₄) max. 0.2%
Chromatographic purity (TLC)
(1)nHexane:EtOAc:AcOH=20:10:1 (V/V) min. 99%
H-Ile-OH (TLC) max. 0.2%
Chromatographic purity (HPLC) min. 99.0%
D-Ile+D-allo-Ile+L-allo-Ile max. 0.3%
Potential residual solvents to be reported

Boc-Leu-OH·H₂O

N-α-t-Boc-L-leucine monohydrate

C₁₁H₂₁NO₄·H₂O, M=249.30
CAS[13139-15-6], EINECS:[236-073-2]
HS-code: 292419 00 90
S: 22-24/25

Storage: 15-25 °C

23061-2-14-25 for synthesis 100 g
23061-2-14-33 for synthesis 500 g
23061-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (T, anhydrous substance) 98.0-102.0%
Solubility (0.5 mmol/ml 10% DMF in CH₂Cl₂) clear, max. 100 Hazen
Melting range 79.0-85.0 °C
[α]_D²⁰ (c=1; AcOH) -23.5° ~ -27.5°
Residue on ignition (SO₄) max. 0.2%
Water (KF) 6.5-7.9%
Chromatographic purity (TLC)
(1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
H-Leu-OH (TLC) max. 0.2%
Chromatographic purity (HPLC) min. 98.0%
D-enantiomer max. 0.2%
Potential residual solvents to be reported

Boc-Lys(Boc)-OH·DCHA

N-α-t-Boc-N-ε-t-Boc-L-lysine dicyclohexylammonium salt

C₁₆H₃₀N₂O₆·C₁₂H₂₃N, M=527.75
CAS[15098-69-8]
HS-code: 292429 98 99
S: 22-24/25

Storage: 15-25 °C

43960-2-14-25 for synthesis 100 g
43960-2-14-33 for synthesis 500 g
43960-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
Identity (IR) passes test
Assay (NT) 98.0-102.0%
Melting range 134.0-142.0 °C
[α]_D²⁰ (c=2; MeOH) +7.0° ~ +9.0°
Residue on ignition (SO₄) max. 0.2%
Water (KF) max. 1.0%
Chromatographic purity (TLC)
(1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
Chromatographic purity (HPLC) min. 98.0%
D-enantiomer max. 0.5%
Potential residual solvents to be reported

Boc-Lys(Z)-OH

N- α -*t*-Boc-*N*- ϵ -Cbz-*L*-lysine

C₁₉H₂₈N₂O₆, M=380.44
 CAS[2389-45-9], EINECS:[219-221-0]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

43560-2-14-25 for synthesis 100 g
 43560-2-14-33 for synthesis 500 g
 43560-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 70.0-85.0 °C
 $[\alpha]_D^{25}$ (c=1; AcOH) -6.9° ~ -7.9°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Phe(4-NO₂)-OH

N-*t*-Boc-4-nitro-*L*-phenylalanine

C₁₄H₁₈N₂O₆, M=310.30
 CAS[33305-77-0]
 HS-code: 292429 98 99

Storage: 15-25 °C

35660-2-14-25 for synthesis 100 g
 35660-2-14-33 for synthesis 500 g
 35660-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 99.0-101.0%
 Melting range 104.0-108.0 °C
 $[\alpha]_D^{25}$ (c=1; MeOH) +7.0° ~ +9.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 99.0%
 Boc-Phe(2-NO₂)-OH (HPLC) max. 0.1%
 Boc-Phe(3-NO₂)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Phe-OH

N- α -*t*-Boc-*L*-phenylalanine

C₁₄H₁₉NO₄, M=265.31
 CAS[13734-34-4], EINECS:[237-305-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23480-2-14-25 for synthesis 100 g
 23480-2-14-33 for synthesis 500 g
 23480-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 84.0-90.0 °C
 $[\alpha]_D^{25}$ (c=1; AcOH) -3.3° ~ -4.3°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Phe-OSu

N- α -*t*-Boc-*L*-phenylalanine *N*-hydroxysuccinimid ester

C₁₈H₂₂N₂O₆, M=362.38
 CAS[3674-06-4], EINECS:[222-939-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

35670-2-14-25 for synthesis 100 g
 35670-2-14-33 for synthesis 500 g
 35670-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 Melting range 133.0-153.0 °C
 $[\alpha]_D^{25}$ (c=2; dioxane) -19.2° ~ -23.2°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 97.0%
 Boc-Phe-OH (HPLC) max. 2.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Pro-OH

N- α -*t*-Boc-*L*-proline

C₁₀H₁₇NO₄, M=215.25
 CAS[15761-39-4], EINECS:[239-848-3]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23140-2-14-25 for synthesis 100 g
 23140-2-14-33 for synthesis 500 g
 23140-2-14-43 for synthesis kg

Specification

Appearance white powder
 Identity (IR) passes test
 Assay (T) 99.0-101.0%
 Melting range 132.0-136.0 °C
 $[\alpha]_D^{25}$ (c=1; AcOH) -59.6° ~ -61.6°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Pro-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Boc-Ser-OH

N- α -*t*-Boc-*L*-serine

C₈H₁₅NO₅, M=205.20
 CAS[3262-72-4], EINECS:[221-867-3]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: below 10 °C

23150-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 85.0-95.0 °C
 $[\alpha]_D^{25}$ (c=1; H₂O) -7.5° ~ 9.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 H-Ser-OH (TLC) max. 0.5%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-D-Ser-OH*N*- α -*t*-Boc-D-serine

C₈H₁₅NO₅, M=205.20
 CAS[6368-20-3]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: below 10 °C

44340-2-14-25 for synthesis 100 g
 44340-2-14-33 for synthesis 500 g
 44340-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 85.0-95.0 °C
 $[\alpha]_D^{25}$ (c=1; H₂O) +7.5° ~ +9.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 H-D-Ser-OH (TLC) max. 0.5%
 Chromatographic purity (HPLC) min. 98.5%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Ser(Bzl)-OH*N*- α -*t*-Boc-O-benzyl-L-serine

C₁₅H₂₁NO₅, M=295.34
 CAS[23680-31-1], EINECS:[245-582-1]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

23340-2-14-25 for synthesis 100 g
 23340-2-14-33 for synthesis 500 g
 23340-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 55.0-63.0 °C
 $[\alpha]_D^{25}$ (c=1; EtOH) +20.7° ~ +24.7°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-D-Ser(Bzl)-OH*N*- α -*t*-Boc-O-benzyl-D-serine

C₁₅H₂₁NO₅, M=295.34
 CAS[47173-80-8]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

23320-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 54.0-62.0 °C
 $[\alpha]_D^{25}$ (c=1; EtOH) -20.7° ~ -24.7°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Ser(Bzl)-OSu*N*- α -*t*-Boc-O-benzyl-L-serine *N*-hydroxysuccinimid ester

C₁₉H₂₄N₂O₇, M=392.45
 CAS[13650-73-2]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

36940-2-14-25 for synthesis 100 g
 36940-2-14-33 for synthesis 500 g
 36940-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 Melting range 120.0-128.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -14.0° ~ -18.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 97.0%
 Boc-Ser(Bzl)-OH (HPLC) max. 2.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Thr(Bzl)-OH*N*- α -*t*-Boc-O-benzyl-L-threonine

C₁₆H₂₃NO₅, M=309.36
 CAS[15260-10-3], EINECS:[239-304-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

23380-2-14-25 for synthesis 100 g
 23380-2-14-33 for synthesis 500 g
 23380-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml CH₂Cl₂) clear, max. 100 Hazen
 Melting range 110.0-120.0 °C
 $[\alpha]_D^{25}$ (c=1; MeOH) +15.0° ~ +17.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Thr-OH (TLC) max. 0.5%
 Chromatographic purity (HPLC) min. 98.0%
 Boc-Thr-OH (HPLC) max. 1.0%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.3%
 Potential residual solvents to be reported

Boc-Thr(Bzl)-OSu*N*- α -*t*-Boc-O-benzyl-L-threonine *N*-hydroxysuccinimid ester

C₂₀H₂₆N₂O₇, M=406.43
 CAS[32886-43-4]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

36950-2-14-25 for synthesis 100 g
 36950-2-14-33 for synthesis 500 g
 36950-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 Melting range 103.0-110.0 °C
 $[\alpha]_D^{25}$ (c=1; dioxane) +9.0° ~ +11.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 97.0%
 Boc-Thr(Bzl)-OH (HPLC) max. 2.0%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.3%
 Potential residual solvents to be reported

Boc-Thr-OH

N-α-t-Boc-L-threonine

C₉H₁₇NO₅, M=219.23
 CAS[2592-18-9], EINECS:[219-987-6]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: 15-25 °C

23180-2-14-25 for synthesis 100 g
 23180-2-14-33 for synthesis 500 g
 23180-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 76.0-83.0 °C
 [α]_D²⁰ (c=1; AcOH) -8.0° ~ -9.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.5%
 Potential residual solvents to be reported

Boc-Trp-OH

N-α-t-Boc-L-tryptophan

C₁₆H₂₀N₂O₄, M=304.34
 CAS[13139-14-5], EINECS:[236-072-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23200-2-14-25 for synthesis 100 g
 23200-2-14-33 for synthesis 500 g
 23200-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 95.0-102.0%
 Solubility (0.5 mmol/ml 10% DMF in CH₂Cl₂) clear, max. 300 hazen
 Melting range 132.0-140.0 °C
 [α]_D²⁰ (c=1; AcOH) -19.0° ~ -23.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Boc-Tyr-OH

N-α-t-Boc-L-tyrosine

C₁₄H₁₉NO₅, M=281.31
 CAS[3978-80-1], EINECS:[223-613-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23170-2-14-25 for synthesis 100 g
 23170-2-14-33 for synthesis 500 g
 23170-2-14-43 for synthesis kg

Specification

Appearance white to off white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 133.0-140.0 °C
 [α]_D²⁰ (c=1; dioxane) +37.0° ~ +39.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Tyr-OH (TLC) max. 0.2%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Tyr(Bzl)-OH

N-α-t-Boc-O-benzyl-L-tyrosine

C₂₁H₂₅NO₅, M=371.43
 CAS[2130-96-3]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

23350-2-14-25 for synthesis 100 g
 23350-2-14-33 for synthesis 500 g
 23350-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 100 Hazen
 Melting range 105.0-115.0 °C
 [α]_D²⁰ (c=2; EtOH) +25.5° ~ +29.5°
 Residue on ignition (SO₄) max. 0.2%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Boc-Val-OH

N-α-t-Boc-L-valine

C₁₀H₁₉NO₄, M=217.27
 CAS[13734-41-3], EINECS:[237-307-6]
 HS-code: 292419 00 90
 S: 22-24/25

Storage: 15-25 °C

23230-2-14-25 for synthesis 100 g
 23230-2-14-33 for synthesis 500 g
 23230-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 99.0-101.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 100 Hazen
 Melting range 75.0-82.0 °C
 [α]_D²⁰ (c=1; AcOH) -5.8° ~ -6.8°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Val-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 Boc-Val-Val-OH (HPLC) max. 0.2%
 Any impurity (HPLC) max. 0.2%
 D-enantiomer max. 0.2%
 Potential residual solvents to be reported

Boc-Val-OSu

N-α-t-Boc-L-valine N-hydroxysuccinimide ester

C₁₄H₂₂N₂O₆, M=314.34
 CAS[3392-12-9], EINECS:[222-236-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

45360-2-14-25 for synthesis 100 g
 45360-2-14-33 for synthesis 500 g
 45360-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 Melting range 123.0-129.0 °C
 [α]_D²⁰ (c=1; dioxane) -36.0° ~ -40.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (HPLC) min. 97.0%
 Boc-Val-OH (HPLC) max. 2.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Fmoc-Aib-OH*N-α-Fmoc-α-aminoisobutyric acid*C₁₉H₁₉NO₄, M=325.36

CAS[94744-50-0]

HS-code: 292429 98 99

Storage: 15-25 °C

22620-2-14-25	for synthesis	100 g
22620-2-14-33	for synthesis	500 g
22620-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	180.0-186.0 °C
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Aib-OH (TLC)	max. 0.25%
Chromatographic purity (HPLC)	min. 98.5%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Aib-OH (HPLC)	max. 0.1%
Any other impurity (HPLC)	max. 0.2%
Potential residual solvents	to be reported

Fmoc-Ala-OH·H₂O*N-α-Fmoc-L-alanine monohydrate*C₁₈H₁₇NO₄·H₂O, M=329.36

CAS[35661-39-3], EINECS:[252-660-6]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22610-2-14-25	for synthesis	100 g
22610-2-14-33	for synthesis	500 g
22610-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, anhydrous substance)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 Hazen
Melting range	146.0-160.0 °C
[α] _D ²⁰ (c=1; DMF, anhydrous substance)	-18.6° ~ -21.2°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	5.0-7.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Ala-OH (TLC)	max. 0.2%
Chromatographic purity (HPLC)	min. 98.5%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Ala-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)
Potential residual solvents	to be reported

Fmoc-Ala-OH·H₂O*N-α-Fmoc-L-alanine monohydrate*C₁₈H₁₇NO₄·H₂O, M=329.36

CAS[35661-39-3], EINECS:[252-660-6]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22615-2-14-25	for synthesis	100 g
22615-2-14-33	for synthesis	500 g
22615-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, anhydrous substance)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 Hazen
Melting range	146.0-160.0 °C
[α] _D ²⁰ (c=1; DMF, anhydrous substance)	-18.6° ~ -21.2°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	5.0-7.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Ala-OH (TLC)	max. 0.2%
Chromatographic purity (HPLC)	min. 98.5%
Fmoc-β-Ala-OH (HPLC)	max. 0.05%
Fmoc-β-Ala-Ala-OH (HPLC)	max. 0.05%
Fmoc-Ala-Ala-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)
Potential residual solvents	to be reported

Fmoc-Arg(Pbf)-OH*N-α-Fmoc-N-ω-Pbf-L-arginine*C₃₄H₄₀N₄O₇S, M=648.78

CAS[154445-77-9]

HS-code: 292429 98 99



R: 36/37/38, S: 2-22-24/25

Storage: below 0 °C

22780-2-14-25	for synthesis	100 g
22780-2-14-33	for synthesis	500 g
22780-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, solvent free substance)	98.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 300 Hazen
[α] _D ²⁰ (c=1; DMF, solvent free substance)	-4.8° ~ -6.2°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)MeCN:CHCl ₃ :AcOH=8:1:1 (V/V)	min. 98%
Chromatographic purity (HPLC)	min. 98.5%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Arg(Pbf)-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.3%
Other amino acids	max. 0.2% (n/n)
Diisopropyl ether (GC)	to be reported
Dichloromethane (GC)	to be reported
Total residual solvent (GC)	max. 8.0%

Fmoc-Arg-OH·xH₂O*N-α-Fmoc-L-arginine hydrate*C₂₁H₂₄N₄O₄·xH₂O, M=396.44·xH₂O

CAS[91000-69-0]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

44220-2-14-25	for synthesis	100 g
44220-2-14-33	for synthesis	500 g
44220-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (NT)	97.0-101.0%
Melting range	152.0-160.0 °C
[α] _D ²⁰ (c=1; NMP)	+18.4° ~ +19.4°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 2.0%
Chromatographic purity (TLC)	
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	min. 99%
H-Arg-OH (TLC)	max. 0.1%
Chromatographic purity (HPLC)	min. 98.0%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Arg-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Fmoc-Asn-OH

N- α -Fmoc-L-asparagine

C₁₉H₁₈N₂O₅, M=354.36
 CAS[71989-16-7], EINECS:[276-252-2]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

43650-2-14-25 for synthesis 100 g
 43650-2-14-33 for synthesis 500 g
 43650-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 175.0-190.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -12.0° ~ -14.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 H-Asn-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Asn-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Fmoc-Cys(Trt)-OH

N- α -Fmoc-S-trityl-L-cysteine

C₃₇H₃₇N₃O₄S, M=585.71
 CAS[103213-32-7]
 HS-code: 293090 16 00
 S: 22-24/25

Storage: 15-25 °C

49590-2-14-25 for synthesis 100 g
 49590-2-14-33 for synthesis 500 g
 49590-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 300 Hazen
 $[\alpha]_D^{25}$ (c=1; DMF) +18.3° ~ +21.5°
 Melting range 169.0-179.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Cys-OH (TLC) max. 0.5%
 Chromatographic purity (HPLC) min. 98.0%
 Fmoc-Cys-OH (HPLC) max. 1.0%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Cys(Trt)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Gln-OH

N- α -Fmoc-L-glutamine

C₂₀H₂₀N₂O₅, M=368.39
 CAS[71989-20-3], EINECS:[276-254-3]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22790-2-14-25 for synthesis 100 g
 22790-2-14-33 for synthesis 500 g
 22790-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 218.0-226.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -17.0° ~ -19.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=77.5:15:7.5 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Gln-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Glu(OBzl)-OH

N- α -Fmoc-L-glutamic acid- γ -benzyl ester

C₂₇H₂₅NO₆, M=459.50
 CAS[123639-61-2]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22650-2-14-25 for synthesis 100 g
 22650-2-14-33 for synthesis 500 g
 22650-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 $[\alpha]_D^{25}$ (c=5, CHCl₃) +9.5° ~ +11.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Glu(OBzl)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Fmoc-Gly-OH

N- α -Fmoc-glycine

C₁₇H₁₅NO₄, M=297.32
 CAS[29022-11-5], EINECS:[249-373-3]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

43670-2-14-25 for synthesis 100 g
 43670-2-14-33 for synthesis 500 g
 43670-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range 173.0-177.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Gly-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Gly-OH (HPLC) max. 0.1%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Gly-OH*N*- α -Fmoc-glycineC₁₇H₁₅NO₄, M=297.32

CAS[29022-11-5], EINECS:[249-373-3]

HS-code: 292429 98 99

R: 41, S: 22-24/25

Storage: below 10 °C

43675-2-14-25 for synthesis 100 g
 43675-2-14-33 for synthesis 500 g
 43675-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range 173.0-177.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Gly-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 Fmoc- β -Ala-OH (HPLC) max. 0.05%
 Fmoc- β -Ala-Gly-OH (HPLC) max. 0.05%
 Fmoc-Gly-Gly-OH (HPLC) max. 0.1%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-His(Trt)-OH*N*- α -Fmoc-N-(*im*)-trityl-L-histidineC₄₀H₃₃N₃O₄, M=619.72

CAS[109425-51-6]

HS-code: 292429 98 99

Storage: below 10 °C

49330-2-14-25 for synthesis 100 g
 49330-2-14-33 for synthesis 500 g
 49330-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 95.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range to be reported
 $[\alpha]_D^{25}$ (c=1; CHCl₃) to be reported
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 2.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 H-His(Trt)-OH (HPLC) max. 0.25%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-His(Trt)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Potential residual solvents to be reported

Fmoc-Ile-OH*N*- α -Fmoc-L-isoleucineC₂₁H₂₃NO₄, M=353.43

CAS[71989-23-6], EINECS:[276-255-9]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

43660-2-14-25 for synthesis 100 g
 43660-2-14-33 for synthesis 500 g
 43660-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 hazen
 Melting range 138.0-150.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -10.5° ~ -12.5 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc- β -Ala-OH (HPLC) max. 0.1%
 Fmoc- β -Ala-Ile-OH (HPLC) max. 0.1%
 H-D-Ile-OH max. 0.1%
 H-D-allo-Ile-OH max. 0.1%
 H-allo-Ile-OH max. 0.1%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Ile-OH*N*- α -Fmoc-L-isoleucineC₂₁H₂₃NO₄, M=353.43

CAS[71989-23-6], EINECS:[276-255-9]

HS-code: 292429 98 99

S: 22-24/25

Storage: 10 °C alatt

43665-2-14-25 for synthesis 100 g
 43665-2-14-33 for synthesis 500 g
 43665-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range 138.0-150.0 °C
 $[\alpha]_D^{25}$ (c=1; DMF) -10.5° ~ -12.5 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc- β -Ala-OH (HPLC) max. 0.05%
 Fmoc- β -Ala-Ile-OH (HPLC) max. 0.05%
 Fmoc-Ile-Ile-OH (HPLC) max. 0.1%
 H-D-Ile-OH max. 0.1%
 H-D-allo-Ile-OH max. 0.1%
 H-allo-Ile-OH max. 0.1%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Leu-OH

N-α-Fmoc-L-leucine

C₂₁H₂₃NO₄, M=353.43
 CAS[35661-60-0], EINECS:[252-662-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22660-2-14-25 for synthesis 100 g
 22660-2-14-33 for synthesis 500 g
 22660-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range 152.0-158.0 °C
 [α]_D²⁰ (c=1; DMF) -24.0° ~ -27.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Leu-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Lys(Boc)-OH

N-α-Fmoc-N-ε-Boc-L-lysine

C₂₆H₃₂N₂O₆, M=468.55
 CAS[71989-26-9], EINECS:[276-256-4]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

44390-2-14-25 for synthesis 100 g
 44390-2-14-33 for synthesis 500 g
 44390-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 Hazen
 Melting range 126.0-132.0 °C
 [α]_D²⁰ (c=1; DMF) -11.0 ~ -13.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Lys(Boc)-OH (TLC) max. 0.2%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Lys(Boc)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Met(O)-OH

N-α-Fmoc-methionine-DL-sulfoxide

C₂₀H₂₁NO₅S, M=387.46
 CAS[76265-70-8]
 HS-code: 292429 98 99

Storage: 15-25 °C

45030-2-14-25 for synthesis 100 g
 45030-2-14-33 for synthesis 500 g
 45030-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 [α]_D²⁰ (c=1; DMF) to be reported
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Fmoc-Met-OH

N-α-Fmoc-L-methionine

C₂₀H₂₁NO₄S, M=371.46
 CAS[71989-28-1], EINECS:[276-258-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

44980-2-14-25 for synthesis 100 g
 44980-2-14-33 for synthesis 500 g
 44980-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 300 Hazen
 Melting range 119.0-144.0 °C
 [α]_D²⁰ (c=1; DMF) -28.0° ~ -31.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Met-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Met-OH

N-α-Fmoc-L-methionine

C₂₀H₂₁NO₄S, M=371.46
 CAS[71989-28-1], EINECS:[276-258-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 10 °C allat

44985-2-14-25 for synthesis 100 g
 44985-2-14-33 for synthesis 500 g
 44985-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 300 Hazen
 Melting range 119.0-144.0 °C
 [α]_D²⁰ (c=1; DMF) -28.0° ~ -31.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Fmoc-β-Ala-OH (HPLC) max. 0.05%
 Fmoc-β-Ala-Met-OH (HPLC) max. 0.05%
 Fmoc-Met-Met-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Phe(4-NO₂)-OH*N*-Fmoc-4-nitro-L-phenylalanineC₂₄H₂₀N₂O₆, M=432.43

CAS[95753-55-2]

HS-code: 292429 98 99

Storage: 15-25 °C

22700-2-14-25	for synthesis	100 g
22700-2-14-33	for synthesis	500 g
22700-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	99.0-101.0%
Melting range	215.0-225.0 °C
[α] _D ²⁰ (c=1; DMF)	-39.0° ~ -43.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 0.5%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 99.0%
Fmoc-Phe(2-NO ₂)-OH (HPLC)	max. 0.1%
Fmoc-Phe(3-NO ₂)-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Phe(4-NO ₂)-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.3%
Potential residual solvents	to be reported

Fmoc-Phe-OH*N*-α-Fmoc-L-phenylalanineC₂₄H₂₁NO₄, M=387.45

CAS[35661-40-6], EINECS:[252-661-1]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22640-2-14-25	for synthesis	100 g
22640-2-14-33	for synthesis	500 g
22640-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	99.0-101.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 Hazen
Melting range	180.0-190.0 °C
[α] _D ²⁰ (c=1; DMF)	-38.0° ~ -40.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Phe-OH (TLC)	max. 0.1%
Chromatographic purity (HPLC)	min. 99.0%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Phe-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.2%
Other amino acids	max. 0.2% (n/n)
Potential residual solvents	to be reported

Fmoc-Phe-OH*N*-α-Fmoc-L-phenylalanineC₂₄H₂₁NO₄, M=387.45

CAS[35661-40-6], EINECS:[252-661-1]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22645-2-14-25	for synthesis	100 g
22645-2-14-33	for synthesis	500 g
22645-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	99.0-101.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 Hazen
Melting range	180.0-190.0 °C
[α] _D ²⁰ (c=1; DMF)	-38.0° ~ -40.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Phe-OH (TLC)	max. 0.1%
Chromatographic purity (HPLC)	min. 99.0%
Fmoc-β-Ala-OH (HPLC)	max. 0.05%
Fmoc-β-Ala-Phe-OH (HPLC)	max. 0.05%
Fmoc-Phe-Phe-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.2%
Other amino acids	max. 0.2% (n/n)
Potential residual solvents	to be reported

Fmoc-Pro-OH*N*-α-Fmoc-L-prolineC₂₀H₁₉NO₄, M=337.37

CAS[71989-31-6], EINECS:[276-259-0]

HS-code: 292429 98 99

S: 22-24/25

Storage: below 10 °C

22680-2-14-25	for synthesis	100 g
22680-2-14-33	for synthesis	500 g
22680-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	95.0-102.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 Hazen
Melting range	105.0-120.0 °C
[α] _D ²⁰ (c=1; DMF)	-31.6 ~ -34.6°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 0.5%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Pro-OH (TLC)	max. 0.1%
Chromatographic purity (HPLC)	min. 98.5%
Fmoc-β-Ala-OH (HPLC)	max. 0.1%
Fmoc-β-Ala-Pro-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.2%
Other amino acids	max. 0.2% (n/n)
Diisopropyl ether (GC)	to be reported
Ethyl acetate (GC)	to be reported
n-Hexane (GC)	to be reported
Total residual solvent (GC)	max. 5.0%

Fmoc-Pro-OH·xH₂O

N-α-Fmoc-L-proline hydrate

C₂₀H₁₉NO₄·xH₂O, M=337.37·xH₂O
 CAS[71989-31-6], EINECS:[276-259-0]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22681-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 93.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear
 A (450-600 nm, 0.5 M, DMF, 1 cm) max. 0.030
 [α]_D²⁰ (c=1; DMF) -29.5° ~ -34.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 6.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Acetic acid (GC) max. 0.1%
 Ethyl acetate (GC) max. 0.5%
 Diisopropyl ether (GC) to be reported
 n-Hexane (GC) to be reported
 Total residual solvent (GC) max. 2.0%

Fmoc-Ser(Bzl)-OH

N-α-Fmoc-O-benzyl-L-serine

C₂₅H₂₃NO₅, M=417.46
 CAS[83792-48-7]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

44400-2-14-25 for synthesis 100 g
 44400-2-14-33 for synthesis 500 g
 44400-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 [α]_D²⁰ (c=1; EtOAc) +23.5° ~ +25.5°
 Melting range 142.0-150.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 H-Ser(Bzl)-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Ser(Bzl)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Fmoc-Trp-OH

N-α-Fmoc-L-tryptophan

C₂₆H₂₂N₂O₄, M=426.47
 CAS[35737-15-6], EINECS:[252-706-5]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22710-2-14-25 for synthesis 100 g
 22710-2-14-33 for synthesis 500 g
 22710-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 95.0-102.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 2000 Hazen
 Melting range 180.0-190.0 °C
 [α]_D²⁰ (c=1; DMF) -27.0° ~ -31.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 98%
 H-Trp-OH (TLC) max. 0.2%
 Chromatographic purity (HPLC) min. 98.0%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Trp-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Fmoc-Val-OH

N-α-Fmoc-L-valine

C₂₀H₂₁NO₄, M=339.39
 CAS[68858-20-8], EINECS:[272-515-0]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

22720-2-14-25 for synthesis 100 g
 22720-2-14-33 for synthesis 500 g
 22720-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 99.0-101.0%
 Solubility (0.5 mmol/ml DMF) clear, max. 150 hazen
 Melting range 140.0-150.0 °C
 [α]_D²⁰ (c=1; DMF) -16.5° ~ -18.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 H-Val-OH (TLC) max. 0.1%
 Chromatographic purity (HPLC) min. 99.0%
 Fmoc-β-Ala-OH (HPLC) max. 0.1%
 Fmoc-β-Ala-Val-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.2%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

Fmoc-Val-OH

N- α -Fmoc-L-valine

$C_{20}H_{21}NO_4$

CAS[68858-20-8], EINECS:[272-515-0]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22725-2-14-25	for synthesis	100 g
22725-2-14-33	for synthesis	500 g
22725-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	99.0-101.0%
Solubility (0.5 mmol/ml DMF)	clear, max. 150 hazen
Melting range	140.0-150.0 °C
$[\alpha]_D^{20}$ (c=1; DMF)	-16.5° ~ -18.5°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
H-Val-OH (TLC)	max. 0.1%
Chromatographic purity (HPLC)	min. 99.0%
Fmoc- β -Ala-OH (HPLC)	max. 0.05%
Fmoc- β -Ala-Val-OH (HPLC)	max. 0.05%
Fmoc-Val-Val-OH (HPLC)	max. 0.1%
D-enantiomer	max. 0.2%
Other amino acids	max. 0.2% (n/n)
Potential residual solvents	to be reported

Z-D-Arg-OH*N*- α -Cbz-D-arginineC₁₄H₂₀N₄O₄, M=308.34

CAS[6382-93-0]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

44920-2-14-25 for synthesis 100 g
 44920-2-14-33 for synthesis 500 g
 44920-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 Melting range 165.0-179.0 °C
 $[\alpha]_D^{20}$ (c=5; 1 M HCl) +8.4° ~ +10.4°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Asn-OH*N*- α -Cbz-L-asparagineC₁₂H₁₄N₂O₅, M=266.25

CAS[2304-96-3], EINECS:[218-969-5]

HS-code: 292429 98 99

Storage: 15-25 °C

22080-2-14-25 for synthesis 100 g
 22080-2-14-33 for synthesis 500 g
 22080-2-14-43 for synthesis kg

Specification

Appearance white off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 162.0-167.0 °C
 $[\alpha]_D^{20}$ (c=2; AcOH) +5.8° ~ +6.8°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Asp-OBzl*N*- α -Cbz-L-aspartic acid α -benzyl esterC₁₉H₁₉NO₆, M=357.36

CAS[4779-31-1]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22090-2-14-25 for synthesis 100 g
 22090-2-14-33 for synthesis 500 g
 22090-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 82.0-86.0 °C
 $[\alpha]_D^{20}$ (c=5; AcOH) -10.3° ~ -11.3°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Gln-OH*N*- α -Cbz-L-glutamineC₁₃H₁₆N₂O₅, M=280.28

CAS[2650-64-8], EINECS:[220-173-8]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22160-2-14-25 for synthesis 100 g
 22160-2-14-33 for synthesis 500 g
 22160-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 132.0-138.0 °C
 $[\alpha]_D^{20}$ (c=2; EtOH) -6.3° ~ -7.3°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Glu-OBzl*N*- α -Cbz-L-glutamic acid α -benzyl esterC₂₀H₂₁NO₆, M=371.39

CAS[3705-42-8]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22190-2-14-25 for synthesis 100 g
 22190-2-14-33 for synthesis 500 g
 22190-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 95.0-105.0 °C
 $[\alpha]_D^{20}$ (c=1; MeOH) -22.0° ~ -25.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-D-Glu-OBzl*N*- α -Cbz-D-glutamic acid α -benzyl esterC₂₀H₂₁NO₆, M=371.39

CAS[65706-99-2]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22200-2-14-25 for synthesis 100 g
 22200-2-14-33 for synthesis 500 g
 22200-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 95.0-105.0 °C
 $[\alpha]_D^{20}$ (c=1; MeOH) +22.5° ~ +24.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 L-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Glu-OH*N*-α-Cbz-L-glutamic acid

C₁₃H₁₅NO₆, M=281.27
 CAS[1155-62-0], EINECS:[214-584-1]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: 15-25 °C

22170-2-14-25 for synthesis 100 g
 22170-2-14-33 for synthesis 500 g
 22170-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 112.0-121.0 °C
 [α]_D²⁰ (c=4; AcOH) -7.0° ~ -8.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Gly-OH*N*-α-Cbz-glycine

C₁₀H₁₁NO₄, M=209.20
 CAS[1138-80-3], EINECS:[214-516-0]
 HS-code: 292429 98 99

Storage: 15-25 °C

22560-2-14-25 for synthesis 100 g
 22560-2-14-33 for synthesis 500 g
 22560-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 115.0-125.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 Potential residual solvents to be reported

Z-Ile-OH-DCHA*N*-α-Cbz-L-isoleucine dicyclohexylammonium salt

C₁₄H₁₉NO₄·C₁₂H₂₃N, M=446.62
 CAS[26699-00-3], EINECS:[247-910-6]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

44030-2-14-25 for synthesis 100 g
 44030-2-14-33 for synthesis 500 g
 44030-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 150.0-160.0 °C
 [α]_D²⁰ (c=1; EtOH) +4.0 ~ +5.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 H-allo-Ile-OH max. 0.5%
 H-D-allo-Ile-OH max. 0.5%
 H-D-Ile-OH max. 0.5%
 Potential residual solvents to be reported

Z-Lys(Boc)-OH*N*-α-Cbz-N-ε-Boc-L-lysine

C₁₉H₂₈N₂O₆, M=380.44
 CAS[2389-60-8]
 HS-code: 292429 98 99
 S: 22-24/25

Storage: below 10 °C

22440-2-14-25 for synthesis 100 g
 22440-2-14-33 for synthesis 500 g
 22440-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 54.0-68.0 °C
 [α]_D²⁰ (c=4; MeOH) -4.7° ~ -5.7°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.5%
 Z-Lys-OH (HPLC) max. 0.25%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Lys(Z)-OH*N*-α-Cbz-N-ε-Cbz-L-lysine

C₂₂H₂₆N₂O₆, M=414.45
 CAS[405-39-0]
 HS-code: 292429 98 99

Storage: 15-25 °C

22470-2-14-25 for synthesis 100 g
 22470-2-14-33 for synthesis 500 g
 22470-2-14-43 for synthesis kg

Specification

Appearance white off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 [α]_D²⁰ (c=2; DMF) to be reported
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)MeCN:CHCl₃:AcOH=8:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 Z-Lys-OH (HPLC) max. 1.0%
 H-Lys(Z)-OH (HPLC) max. 1.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

Z-Pro-OH*N*-α-Cbz-L-proline

C₁₃H₁₅NO₄, M=249.26
 CAS[1148-11-4], EINECS:[214-557-4]
 HS-code: 292429 98 99

Storage: 15-25 °C

22350-2-14-25 for synthesis 100 g
 22350-2-14-33 for synthesis 500 g
 22350-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 73.0-78.0 °C
 [α]_D²⁰ (c=2; AcOH) -58.5° ~ -61.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)CHCl₃:MeOH:AcOH=90:8:2 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

Z-Ser(Bzl)-OH*N*- α -Cbz-*O*-benzyl-*L*-serineC₁₈H₁₉NO₅, M=329.35

CAS[20806-43-3]

HS-code: 292429 98 99

Storage: 15-25 °C

44090-2-14-25	for synthesis	100 g
44090-2-14-33	for synthesis	500 g
44090-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
$[\alpha]_D^{25}$ (c=2; MeOH)	+11.0° ~ 13.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Z-D-Ser(tBu)-OH*N*- α -Cbz-*O*-*t*-butyl-*D*-serineC₁₅H₂₁NO₅, M=295.33

CAS[65806-90-8]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22490-2-14-25	for synthesis	100 g
22490-2-14-33	for synthesis	500 g
22490-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	82.0-92.0 °C
$[\alpha]_D^{25}$ (c=1; MeOH)	-17.0° ~ -20.0°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
L-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Z-Ser-OH*N*- α -Cbz-*L*-serineC₁₁H₁₃NO₅, M=239.22

CAS[1145-80-8], EINECS:[214-546-4]

HS-code: 292429 98 99

Storage: 15-25 °C

40740-2-14-25	for synthesis	100 g
40740-2-14-33	for synthesis	500 g
40740-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	114.0-120.0 °C
$[\alpha]_D^{25}$ (c=7; AcOH)	+5.5° ~ +6.5°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=77.5:15:7.5 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Z-Trp-OH*N*- α -Cbz-*L*-tryptophanC₁₉H₁₈N₂O₄, M=338.36

CAS[7432-21-5], EINECS:[231-074-4]

HS-code: 292429 98 99

Storage: 15-25 °C

22430-2-14-25	for synthesis	100 g
22430-2-14-33	for synthesis	500 g
22430-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T)	98.0-102.0%
Melting range	122.0-128.0 °C
$[\alpha]_D^{25}$ (c=1; MeOH)	-8.5° ~ -9.5°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 1.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 99%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

Z-Tyr-OH·xH₂O*N*- α -Cbz-*L*-tyrosine hydrateC₁₇H₁₇NO₅·xH₂O, M=315.32

CAS[1164-16-5], EINECS:[214-609-6]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

22390-2-14-25	for synthesis	100 g
22390-2-14-33	for synthesis	500 g
22390-2-14-43	for synthesis	kg

Specification

Appearance	white to off-white powder
Identity (IR)	passes test
Assay (T, anhydrous substance)	98.0-102.0%
$[\alpha]_D^{25}$ (c=2; AcOH, anhydrous substance)	+8.5° ~ +10.5°
Residue on ignition (SO ₄)	max. 0.2%
Water (KF)	max. 13.0%
Chromatographic purity (TLC)	
(1)CHCl ₃ :MeOH:AcOH=90:8:2 (V/V)	min. 98%
Chromatographic purity (HPLC)	min. 98.0%
D-enantiomer	max. 0.5%
Potential residual solvents	to be reported

H-Ala-OH*L-Alanine*C₃H₇NO₂, M=89.09

CAS[56-41-7], EINECS:[200-273-8], Merck Index: (14) 204

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18430-1-08-25 puriss., Ph.Eur.6 100 g**18430-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (2.5 g/100ml water) clear, max. BY₆
 [α]_D²⁰ (c=10; 25 m/V% HCl, dried substance) +13.5° ~ +15.5°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Arg-OH·HCl*L-Arginine hydrochloride*C₆H₁₄N₄O₂·HCl, M=210.67

CAS[1119-34-2], EINECS:[214-275-1], Merck Index: (14) 780

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18480-1-08-25 puriss., Ph.Eur.6 100 g**18480-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (2.5 g/50 ml water) clear, colourless
 [α]_D²⁰ (c=8; 25 m/V % HCl, dried substance) +21.0° ~ +23.5°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Asn-OH*L-Asparagine anhydrous*C₄H₈N₂O₃, M=132.12

CAS[70-47-3], EINECS:[200-735-9], Merck Index: (14) 837

HS-code: 292249 85 90

Storage:

18490-1-08-25 puriss. 100 g**18490-1-08-38** puriss. 1000 g**Specification**

Appearance white to off-white powder
 Identity passes test
 Assay (NT, dried substance) 99.0-101.0%
 Solubility (2.0 g/100 ml water) clear, colourless
 [α]_D²⁰ (c=10; 31 m/V% HCl, dried substance) +33.7° ~ +36.0°
 pH (2%, 25 °C) 4.0-6.0
 Loss on drying (105 °C) max. 1.0%
 Residue on ignition (SO₄) max. 0.1%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.02%
 Ammonium (NH₄) max. 0.1%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%

H-Asp-OH*L-Aspartic acid*C₄H₇NO₄, M=133.11

CAS[56-84-8], EINECS:[200-291-6], Merck Index: (14) 840

HS-code: 292249 85 90



R: 40, S: 2-22-24/25-36

Storage: 15-25 °C

18500-1-08-25 puriss., Ph.Eur.6 100 g**18500-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (T, dried substance) 98.5-101.5%
 Solubility (0.5 g/10 ml 1 M HCl) clear, max. BY₆
 [α]_D²⁰ (c=8; 25 m/V% HCl, dried substance) +24.0° ~ +26.0°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Cys-OH·HCl·H₂O*L-Cysteine hydrochloride monohydrate*C₃H₇NO₂S·HCl·H₂O, M=175.64

CAS[7048-04-6], EINECS:[200-157-7], Merck Index: 12/2850

HS-code: 292249 85 90



R: 36/37/38, S: 2-26-36

Storage: 15-25 °C

18591-1-08-25 puriss., Ph.Eur.6 100 g**18591-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (RT, dried substance) 98.5-101.0%
 Solubility (2.5 g/100 ml water) clear, max. BY₆
 [α]_D²⁰ (c=8; 25 m/V% HCl, dried substance) +5.5° ~ +7.0°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (0.7 kPa, 24 h) 8.0-12.0%
 Ammonium (NH₄) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.002%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

(H-Cys-OH)₂*L-Cystine*C₆H₁₂N₂O₄S₂, M=240.30

CAS[56-89-3], EINECS:[200-296-3], Merck Index: (14) 2782

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18610-1-08-25 puriss., Ph.Eur.6 100 g
 18610-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (RT, dried substance) 98.5-101.0%
 Solubility (1.0 g/10 ml 2 M HCl) clear, max. Y₇
 Solubility (2.0 g/50 ml water) clear, colourless
 [α]_D²⁰ (c=2; 1 M HCl, dried substance) -218.0° ~ -224.0°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.2%
 D-enantiomer max. 0.5%

H-Gln-OH*L-Glutamine*C₅H₁₀N₂O₃, M=146.15

CAS[56-85-9], EINECS:[200-292-1], Merck Index: (14) 4471

HS-code: 292249 85 90

S: 24/25

Storage: 15-25 °C

18680-1-08-25 puriss. 100 g
 18680-1-08-38 puriss. 1000 g

Specification

Appearance white to off-white powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (2.0 g/50 ml water) clear, colourless
 [α]_D²⁰ (c=4; H₂O, dried substance) +6.3° ~ +7.3°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Glu-OH*L-Glutamic acid*C₅H₉NO₄, M=147.13

CAS[56-86-0], EINECS:[200-293-7], Merck Index: (14) 4469

HS-code: 292242 00 90

S: 24/25

Storage: 15-25 °C

18700-1-08-25 puriss., Ph.Eur.6 100 g
 18700-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (T, dried substance) 98.5-100.5%
 Solubility (5.0 g/50 ml 1 M HCl) clear, colourless
 [α]_D²⁰ (c=10; 1M HCl, dried substance) +30.5° ~ +32.5°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Gly-OH*Glycine*C₂H₅NO₂, M=75.07

CAS[56-40-6], EINECS:[200-272-2], Merck Index: (14) 4491

HS-code: 292249 85 90



R: 36/37/38, S: 2-20/21-24/25-3/9/49-36/37/39-7/8

Storage: 15-25 °C

11460-1-08-25 puriss., Ph.Eur.6 100 g
 11460-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (5.0 g/50 ml water) clear, max. Y₇
 pH (5%, 25 °C) 5.9-6.4
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C, 2 h) max. 0.5%
 Chloride (Cl) max. 0.0075%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-His-OH*L-Histidine*C₆H₉N₃O₂, M=155.16

CAS[71-00-1], EINECS:[200-745-3], Merck Index: (14) 4720

HS-code: 292249 85 90

S: 24/25

Storage: 15-25 °C

35030-1-08-25 puriss., Ph.Eur.6 100 g
 35030-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (T, dried substance) 98.5-101.0%
 Solubility (2.5 g/50 ml water) clear, max. BY₇
 [α]_D²⁰ (c=11; 25 m/V% HCl, dried substance) +11.4° ~ +12.4°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%

H-Ile-OH*L-Isoleucine*C₆H₁₃NO₂, M=131.17

CAS[73-32-5], EINECS:[200-798-2], Merck Index: (14) 5179

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18790-1-08-25 puriss., Ph.Eur.6 100 g**18790-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance	white to off-white, crystalline powder or flakes
Identity	passes test
Assay (NT, dried substance)	98.5-101.0%
Solubility (0.5 g/10 ml 1 M HCl)	clear, max. BY ₆
[α] _D ²⁰ (c=4; 25 m/V% HCl, dried substance)	+40.0° ~ +43.0°
Residue on ignition (SO ₄)	max. 0.1%
Loss on drying (105 °C)	max. 0.5%
Chloride (Cl)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.001%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-Ile+D-allo-Ile+L-allo-Ile	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Leu-OH*L-Leucine*C₆H₁₃NO₂, M=131.18

CAS[61-90-5], EINECS:[200-522-0], Merck Index: (14) 5451

HS-code: 292249 85 90

S: 24/25

Storage: 15-25 °C

18830-1-08-25 puriss., Ph.Eur.6 100 g**18830-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance	white to off-white, crystalline powder or flakes
Identity	passes test
Assay (NT, dried substance)	98.5-101.0%
Solubility (0.5 g/10 ml 1 M HCl)	clear, max. BY ₆
[α] _D ²⁰ (c=4; 25 m/V% HCl, dried substance)	+14.5° ~ +16.5°
Residue on ignition (SO ₄)	max. 0.1%
Loss on drying (105 °C)	max. 0.5%
Ammonium (NH ₄)	max. 0.02%
Chloride (Cl)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.001%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Lys-OH·HCl*L-Lysine hydrochloride*C₆H₁₄N₂O₂·HCl, M=182.65

CAS[657-27-2], EINECS:[211-519-9], Merck Index: (14) 5636

HS-code: 292241 00 00

S: 24/25

Storage: 15-25 °C

18900-1-08-25 puriss., Ph.Eur.6 100 g**18900-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance	white to off-white, crystalline powder
Identity	passes test
Assay (NT, dried substance)	98.5-101.0%
Solubility (5.0 g/50 ml water)	clear, max. B ₇ , max. GY ₇
[α] _D ²⁰ (c=8; 25 m/V% HCl, dried substance)	+21.0° ~ +22.5°
Residue on ignition (SO ₄)	max. 0.1%
Loss on drying (105 °C)	max. 0.5%
Ammonium (NH ₄)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.003%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Met-OH*L-Methionine*C₅H₁₁NO₂S, M=149.21

CAS[63-68-3], EINECS:[200-562-9], Merck Index: (14) 5975

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18910-1-08-25 puriss., Ph.Eur.6 100 g**18910-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance	white to off-white, crystalline powder
Identity	passes test
Assay (NT, dried substance)	99.0-101.0%
Solubility (2.5 g/100 ml water)	clear, colourless
pH (2.5%, 25 °C)	5.5-6.5
[α] _D ²⁰ (c=2; 25 m/V% HCl, dried substance)	+22.5° ~ +24.0°
Loss on drying (105 °C)	max. 0.5%
Residue on ignition (SO ₄)	max. 0.1%
Chloride (Cl)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.001%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Phe-OH*L-Phenylalanine*C₉H₁₁NO₂, M=165.19

CAS[63-91-2], EINECS:[200-568-1], Merck Index: (14) 7271

HS-code: 292249 85 90

S: 24/25

Storage: 15-25 °C

18650-1-08-25 puriss., Ph.Eur.6 100 g**18650-1-08-38** puriss., Ph.Eur.6 1000 g**Specification**

Appearance	white to off-white, crystalline powder or flakes
Identity	passes test
Assay (NT, dried substance)	98.5-101.0%
Solubility (0.5 g/10 ml 1 M HCl)	clear, max. BY ₆
[α] _D ²⁰ (c=2; H ₂ O, dried substance)	-33.0° ~ -35.5°
Residue on ignition (SO ₄)	max. 0.1%
Loss on drying (105 °C)	max. 0.5%
Ammonium (NH ₄)	max. 0.02%
Chloride (Cl)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.001%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Pro-OH*L-Proline*C₅H₉NO₂, M=115.13

CAS[147-85-3], EINECS:[205-702-2], Merck Index: (14) 7780

HS-code: 292249 85 90

S: 24/25

Storage: 15-25 °C

18990-1-08-25 puriss., Ph.Eur.6 100 g
 18990-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (2.5 g/50 ml water) clear, colourless
 $[\alpha]_D^{25}$ (c=4; H₂O, dried substance) -84.0° ~ -86.0°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Ser-OH*L-Serine*C₃H₇NO₃, M=105.09

CAS[56-45-1], EINECS:[200-274-3], Merck Index: (14) 8460

HS-code: 292249 85 90

Storage: 15-25 °C

19020-1-08-25 puriss., Ph.Eur.6 100 g
 19020-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (2.5 g/50 ml water) clear, max. BY₆
 $[\alpha]_D^{25}$ (c=10; 2 M HCl, dried substance) +14.0° ~ +16.0°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Thr-OH*L-Threonine*C₄H₉NO₃, M=119.12

CAS[72-19-5], EINECS:[200-774-1], Merck Index: (14) 9380

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

19090-1-08-25 puriss., Ph.Eur.6 100 g
 19090-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 99.0-101.0%
 Solubility (2.5 g/100 ml water) clear, colourless
 $[\alpha]_D^{25}$ (c=6; H₂O, dried substance) -27.6° ~ -29.0°
 pH (2.5 %, 25 °C) 5.0-6.5
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Ammonium (NH₄) max. 0.02%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Trp-OH*L-Tryptophan*C₁₁H₁₂N₂O₂, M=204.23

CAS[73-22-3], EINECS:[200-795-6], Merck Index: (14) 9797

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

19100-1-08-25 puriss., Ph.Eur.6 100 g
 19100-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white powder
 Identity passes test
 Assay (NT, dried substance) 98.5-101.0%
 Solubility (0.1 g/10 ml 1 M HCl) clear, max. BY₆
 $[\alpha]_D^{25}$ (c=1; H₂O, dried substance) -30.5° ~ -32.5°
 Residue on ignition (SO₄) max. 0.1%
 Loss on drying (105 °C) max. 0.5%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Ammonium (NH₄) max. 0.02%
 Iron (Fe) max. 0.002%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 1,1'-Ethylidenebistryptophan (HPLC) max. 0.001%
 Other related substances (1) (HPLC) max. 0.01%
 Other related substances (2) (HPLC) max. 0.03%
 Other amino acids max. 0.2% (n/n)

H-Tyr-OH*L-Tyrosine*C₉H₁₁NO₃, M=181.19

CAS[60-18-4], EINECS:[200-460-4], Merck Index: (14) 9839

HS-code: 292249 85 90



R: 36/37/38, S: 2-26-36

Storage: 15-25 °C

19070-1-08-25 puriss., Ph.Eur.6 100 g
 19070-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance white to off-white, crystalline powder
 Identity passes test
 Assay (NT, dried substance) 99.0-101.0%
 Solubility (0.5 g/20 ml 25 m/V% HCl) clear, max. Y₇
 $[\alpha]_D^{25}$ (c=5; 1 M HCl, dried substance) -11.0° ~ -12.3°
 Loss on drying (105 °C) max. 0.5%
 Residue on ignition (SO₄) max. 0.1%
 Chloride (Cl) max. 0.02%
 Sulfate (SO₄) max. 0.03%
 Iron (Fe) max. 0.001%
 Heavy metals (Pb) max. 0.001%
 Ninhydrin-positive substances (TLC) max. 0.5%
 D-enantiomer max. 0.5%
 Other amino acids max. 0.2% (n/n)

H-Val-OH

L-Valine

$C_5H_{11}NO_2$, M=117.15

CAS[72-18-4], EINECS:[200-773-6], Merck Index: (14) 9909

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

19120-1-08-25 puriss., Ph.Eur.6 100 g

19120-1-08-38 puriss., Ph.Eur.6 1000 g

Specification

Appearance	white to off-white, crystalline powder
Identity	passes test
Assay (NT, dried substance)	98.5-101.0%
Solubility (2.5 g/100 ml water)	clear, max. BY ₆
$[\alpha]_D^{20}$ (c=8; 25 m/V% HCl, dried subst.)	+26.5° ~ +29.0°
Residue on ignition (SO ₄)	max. 0.1%
Loss on drying (105 °C)	max. 0.5%
Ammonium (NH ₄)	max. 0.02%
Chloride (Cl)	max. 0.02%
Sulfate (SO ₄)	max. 0.03%
Iron (Fe)	max. 0.001%
Heavy metals (Pb)	max. 0.001%
Ninhydrin-positive substances (TLC)	max. 0.5%
D-enantiomer	max. 0.5%
Other amino acids	max. 0.2% (n/n)

H-Ala-OBzl·HCl

L-Alanine benzyl ester hydrochloride

C₁₀H₁₃NO₂ · HCl, M=215.68

CAS[5557-83-5]

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18440-2-14-25 for synthesis 100 g
 18440-2-14-33 for synthesis 500 g
 18440-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 135.0-145.0 °C
 [α]_D²⁰ (c=2; 0.1 M HCl) -9.0° ~ -11.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Ala-OBzl·pTosOH

L-Alanine benzyl ester toluene-4-sulfonate

C₁₀H₁₃NO₂ · C₇H₈O₃S, M=351.42

CAS[42854-62-6], EINECS:[255-969-4]

HS-code: 292249 85 90

Storage: below 10 °C

18470-2-14-25 for synthesis 100 g
 18470-2-14-33 for synthesis 500 g
 18470-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-103.0%
 Melting range 108.0-118.0 °C
 [α]_D²⁰ (c=4; MeOH) -4.0° ~ -6.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98.0%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Acetic acid (GC) max. 0.1%
 Ethyl acetate (GC) max. 0.5%
 Diisopropyl ether (GC) to be reported
 Methanol (GC) to be reported
 Total residual solvent (GC) max. 2.0%

H-Ala-OMe·HCl

L-Alanine methyl ester hydrochloride

C₄H₉NO₂ · HCl, M=139.58

CAS[2491-20-5]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

18450-2-14-25 for synthesis 100 g
 18450-2-14-33 for synthesis 500 g
 18450-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 105.0-111.0 °C
 [α]_D²⁰ (c=2; MeOH) +7.0° ~ +8.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Glu(OBzl)-OBzl·pTosOH

L-glutamic acid dibenzyl ester toluene-4-sulfonate

C₁₉H₂₁NO₄ · C₇H₈O₃S, M=499.59

CAS[2791-84-6]

HS-code: 292250 00 90

Storage: 15-25 °C

18720-2-14-25 for synthesis 100 g
 18720-2-14-33 for synthesis 500 g
 18720-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 [α]_D²⁰ (c=1; MeOH) +7.0° ~ +9.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 H-Glu-OH (TLC) max. 0.5%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Glu(OBzl)-OH

L-Glutamic acid γ-benzyl ester

C₁₂H₁₅NO₅, M=237.26

CAS[1676-73-9], EINECS:[216-826-1]

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18730-2-14-25 for synthesis 100 g
 18730-2-14-33 for synthesis 500 g
 18730-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 Melting range 170.0-180.0 °C
 [α]_D²⁰ (c=1; AcOH) +17.0° ~ +21.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

H-Glu-OBzl

L-Glutamic acid α-benzylester

C₁₂H₁₅NO₄, M=237.25

CAS[13030-09-6]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

49210-2-14-25 for synthesis 100 g
 49210-2-14-33 for synthesis 500 g
 49210-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 Melting range 140.0-150.0 °C
 [α]_D²⁰ (c=1; 1M HCl) +10.0° ~ +11.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Gly-OBzl-pTosOH*Glycine benzyl ester toluene-4-sulfonate*C₉H₁₁NO₂·C₇H₆O₃S, M=337.39

CAS[1738-76-7], EINECS:[217-094-6]

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

45080-2-14-25 for synthesis 100 g

45080-2-14-33 for synthesis 500 g

45080-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 129.0-135.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 Potential residual solvents to be reported

H-Gly-Tyr-OH·2H₂O*Glycyl-L-tyrosine dihydrate*C₁₁H₁₄N₂O₄·2H₂O, M=274.27

CAS[658-79-7], EINECS:[211-525-1]

HS-code: 292419 00 90

Storage: below 10 °C

11430-2-14-43 for synthesis kg

Specification

Appearance white powder
 Identity (IR) passes test
 Assay (NT, anhydrous substance) 98.0-102.0%
 [α]_D²⁰ (c=1; H₂O, anhydrous) +46.0° ~ +50.0°
 Residue on ignition (SO₄) max. 0.5%
 Water (KF) 10.0-16.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%

H-His(Trt)-OH*N-(im)-Trityl-L-histidine*C₂₅H₂₃N₃O₂, M=397.47

CAS[35146-32-8]

HS-code: 292249 85 90

Storage: below 10 °C

34790-2-14-25 for synthesis 100 g

34790-2-14-33 for synthesis 500 g

34790-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT, solvent free substance) 97.0-102.0%
 [α]_D²⁰ (c=1; AcOH) +25.5° ~ +29.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 2.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Dichloromethane (GC) to be reported
 Methanol (GC) to be reported
 Tetrahydrofuran (GC) to be reported
 Total residual solvent (GC) max. 8.0%

H-Leu-OBzl-pTosOH*L-Leucine benzyl ester toluene-4-sulfonate*C₁₃H₁₉NO₂·C₇H₆O₃S, M=393.50

CAS[1738-77-8], EINECS:[217-095-1]

HS-code: 292249 85 90

S: 22-24/25

Storage: 15-25 °C

18850-2-14-25 for synthesis 100 g

18850-2-14-33 for synthesis 500 g

18850-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 98.0-102.0%
 Melting range 152.0-160.0 °C
 [α]_D²⁰ (c=1; DMF) +4.5° ~ +5.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 H-Leu-OH (TLC) max. 0.3%
 Chromatographic purity (HPLC) min. 99.0%
 D-enantiomer max. 0.3%
 Other amino acids max. 0.2% (n/n)
 Potential residual solvents to be reported

H-Lys(Boc)-OH*N-ε-t-Boc-L-lysine*C₁₁H₂₂N₂O₄, M=246.31

CAS[2418-95-3]

HS-code: 292419 00 90

S: 22-24/25

Storage: below 10 °C

23610-2-14-25 for synthesis 100 g

23610-2-14-33 for synthesis 500 g

23610-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 [α]_D²⁰ (c=1; AcOH) +16.0° ~ +18.0°
 Residue on ignition (SO₄) max. 1.0%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Lys(Z)-OH*N-ε-Cbz-L-lysine*C₁₄H₂₀N₂O₄, M=280.32

CAS[1155-64-2], EINECS:[214-585-7]

HS-code: 292429 98 99

S: 22-24/25

Storage: 15-25 °C

23620-2-14-25 for synthesis 100 g

23620-2-14-33 for synthesis 500 g

23620-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 [α]_D²⁰ (c=2; 1 M HCl) +14.0° ~ +16.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Met-OMe·HCl*L-Methionine methyl ester hydrochloride*C₆H₁₃NO₂S·HCl, M=199.70

CAS[2491-18-1], EINECS:[219-651-9]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

44180-2-14-25 for synthesis 100 g
 44180-2-14-33 for synthesis 500 g
 44180-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 $[\alpha]_D^{25}$ (c=1; H₂O) +25.0° ~ +27.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Phe(4-NO₂)-OH·H₂O*4-Nitro-L-phenylalanine monohydrate*C₉H₁₀N₂O₄·H₂O, M=228.20

CAS[207591-86-4]

HS-code: 292249 85 90

Storage: 15-25 °C

02040-2-14-25 for synthesis 100 g
 02040-2-14-33 for synthesis 500 g
 02040-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT, anhydrous substance) 98.0-102.0%
 $[\alpha]_D^{25}$ (c=2; 1 M HCl, anhydrous substance) +8.5° ~ +10.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) 7.4-8.4%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 H-Phe(2-NO₂)-OH (HPLC) max. 0.1%
 H-Phe(3-NO₂)-OH (HPLC) max. 0.1%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

H-Phe-OBzl·HCl*L-Phenylalanine benzyl ester hydrochloride*C₁₆H₁₇NO₂·HCl, M=291.77

CAS[2462-32-0], EINECS:[219-558-3]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

43180-2-14-25 for synthesis 100 g
 43180-2-14-33 for synthesis 500 g
 43180-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 185.0-195.0 °C
 $[\alpha]_D^{25}$ (c=1; 80% AcOH) -10.5° ~ -12.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (2)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Pro-OBzl·HCl*L-Proline benzyl ester hydrochloride*C₁₂H₁₅NO₂·HCl, M=241.71

CAS[16652-71-4], EINECS:[240-700-5]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

43860-2-14-25 for synthesis 100 g
 43860-2-14-33 for synthesis 500 g
 43860-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 139.0-149.0 °C
 $[\alpha]_D^{25}$ (c=1; MeOH) -43.0° ~ -45.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.5%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-D-Pro-OBzl·HCl*D-Proline benzyl ester hydrochloride*C₁₂H₁₅NO₂·HCl, M=241.71

CAS[53843-90-6]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

43870-2-14-25 for synthesis 100 g
 43870-2-14-33 for synthesis 500 g
 43870-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (T) 97.0-102.0%
 $[\alpha]_D^{25}$ (c=1; MeOH) +42.0° ~ +46.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 2.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 H-D-Pro-OH (TLC) max. 1.0%
 Chromatographic purity (HPLC) min. 98.5%
 Any impurity (HPLC) max. 1.0%
 L-enantiomer max. 0.3%
 Hydrochloric acid content (T) to be reported
 Potential residual solvents to be reported

H-Ser(Bzl)-OH*O-Benzyl-L-serine*C₁₀H₁₃NO₃, M=195.22

CAS[4726-96-9], EINECS:[225-220-6]

HS-code: 292250 00 90

S: 22-24/25

Storage: 15-25 °C

25070-2-14-25 for synthesis 100 g
 25070-2-14-33 for synthesis 500 g
 25070-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 $[\alpha]_D^{25}$ (c=1; AcOH/1MHCl=8/2) +20.0° ~ +25.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.3%
 Potential residual solvents to be reported

H-Ser-OMe-HCl*L-Serine methyl ester hydrochloride*

$C_4H_9NO_3 \cdot HCl$, M=155.58
 CAS[5680-80-8], EINECS:[2271407]
 HS-code: 292250 00 90
 S: 22-24/25

Storage: below 10 °C

35680-2-14-25 for synthesis 100 g
 35680-2-14-33 for synthesis 500 g
 35680-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 $[\alpha]_D^{20}$ (c=2; MeOH) +4.0° ~ +5.5°
 Melting range 158.0-166.0 °C
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 0.5%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Thr(Bzl)-OBzl · ½ oxalate*O-Benzyl-L-threonine benzyl ester hemioxalate*

$C_{18}H_{21}NO_3 \cdot \frac{1}{2} C_2H_2O_4$, M=389.41
 CAS[15260-11-4]
 HS-code: 292250 00 90

Storage: 15-25 °C

44470-2-14-25 for synthesis 100 g
 44470-2-14-33 for synthesis 500 g
 44470-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (N) 97.0-103.0%
 $[\alpha]_D^{20}$ (c=2; DMF) to be reported
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 2.0%
 Chromatographic purity (HPLC) min. 98.5%
 H-Thr(Bzl)-OH (HPLC) max. 0.8%
 Benzyl alcohol (HPLC) max. 0.5%
 Any other impurity (HPLC) max. 1.0%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.3%
 Potential residual solvents to be reported

H-Thr(Bzl)-OH*O-Benzyl-L-threonine*

$C_{11}H_{15}NO_3$, M=209.24
 CAS[4378-10-3]
 HS-code: 292250 00 90
 S: 22-24/25

Storage: 15-25 °C

44450-2-14-25 for synthesis 100 g
 44450-2-14-33 for synthesis 500 g
 44450-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 $[\alpha]_D^{20}$ (c=1; 1M HCl) -29.0° ~ -31.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-Thr+D-allo-Thr+L-allo-Thr max. 0.5%
 Potential residual solvents to be reported

H-Tyr(Bzl)-OH*O-Benzyl-L-tyrosine*

$C_{16}H_{17}NO_3$, M=271.32
 CAS[16652-64-5], EINECS:[240-699-1]
 HS-code: 292250 00 90
 S: 22-24/25

Storage: 15-25 °C

43080-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (NT) 98.0-102.0%
 Melting range 225.0-235.0 °C
 $[\alpha]_D^{20}$ (c=1; 80% AcOH) -8.5° ~ -10.5°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Tyr-OMe-HCl*L-Tyrosine methyl ester hydrochloride*

$C_{10}H_{13}NO_3 \cdot HCl$, M=231.68
 CAS[3417-91-2], EINECS:[222-313-3]
 HS-code: 292250 00 90



R: 36/37/38, S: 2-26-36

Storage: below 10 °C

19080-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 185.0-193.0 °C
 $[\alpha]_D^{20}$ (c=3; pyridine) +71.0° ~ +75.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 98%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Val-OBzl-HCl*L-Valine benzyl ester hydrochloride*

$C_{12}H_{17}NO_2 \cdot HCl$, M=243.73
 CAS[2462-34-2]
 HS-code: 292249 85 90
 S: 22-24/25

Storage: below 10 °C

43300-2-14-25 for synthesis 100 g
 43300-2-14-33 for synthesis 500 g
 43300-2-14-43 for synthesis kg

Specification

Appearance white to off-white powder
 Identity (IR) passes test
 Assay (AT) 98.0-102.0%
 Melting range 137.0-142.0 °C
 $[\alpha]_D^{20}$ (c=3; pyridine) +8.0° ~ +10.0°
 Residue on ignition (SO₄) max. 0.2%
 Water (KF) max. 1.0%
 Chromatographic purity (TLC)
 (1)EtOAc:nBuOH:AcOH:H₂O=2:1:1:1 (V/V) min. 99%
 Chromatographic purity (HPLC) min. 98.0%
 D-enantiomer max. 0.5%
 Potential residual solvents to be reported

H-Val-OBzl-pTosOH

L-Valine benzyl ester toluene-4-sulfonate

C₁₂H₁₇NO₂·C₇H₈O₃S, M=379.47

CAS[16652-76-9]

HS-code: 292249 85 90

Storage: below 10 °C

19140-2-14-25	..... for synthesis	.....	100 g
19140-2-14-33	..... for synthesis	.....	500 g
19140-2-14-43	..... for synthesis	.....	kg

Specification

Appearance	.....	white to off-white powder
Identity (IR)	.....	passes test
Assay (T)	.....	98.0-103.0%
Melting range	.....	158.0-162.0 °C
[α] _D ²⁰ (c=3; MeOH)	.....	-3.0° ~ -4.0°
Residue on ignition (SO ₄)	.....	max. 0.2%
Water (KF)	.....	max. 0.5%
Chromatographic purity (TLC)	.....
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	.....	min. 98%
Chromatographic purity (HPLC)	.....	min. 98.0%
D-enantiomer	.....	max. 0.5%
Potential residual solvents	.....	to be reported

H-Val-OMe-HCl

L-Valine methyl ester hydrochloride

C₆H₁₃NO₂·HCl, M=167.64

CAS[6306-52-1], EINECS:[228-620-9]

HS-code: 292249 85 90

S: 22-24/25

Storage: below 10 °C

19130-2-14-25	..... for synthesis	.....	100 g
19130-2-14-33	..... for synthesis	.....	500 g
19130-2-14-43	..... for synthesis	.....	kg

Specification

Appearance	.....	white to off-white powder
Identity (IR)	.....	passes test
Assay (AT)	.....	98.0-102.0%
Melting range	.....	163.0-171.0 °C
[α] _D ²⁰ (c=2; MeOH)	.....	+22.6° ~ +24.6°
Residue on ignition (SO ₄)	.....	max. 0.2%
Water (KF)	.....	max. 1.0%
Chromatographic purity (TLC)	.....
(1)EtOAc:nBuOH:AcOH:H ₂ O=2:1:1:1 (V/V)	.....	min. 98%
H-Val-OH (TLC)	.....	max. 0.5%
D-enantiomer	.....	max. 0.2%
Potential residual solvents	.....	to be reported

Chlorophacinone 0.25 OC

Chlorophacinone 0.25% (w/V) oil concentrate

HS-code: 380899 10 00



R: 21/22-33-48/21/22-55, S: 1-13-36/37-45

UN sz: UN 3082 Hazard class: 9. Packing group: III.

Storage: 15-25 °C

27592-2-99-43 according to specification kg

Specification

Appearance deep red liquid
 Identity for chlorophacinone (HPLC) positive
 Chlorophacinone content (HPLC) 0.250-0.265% (m/V)
 Density (20 °C) 0.840-0.860 g/ml

Chlorophacinone 0.5% (m/V) OC

Chlorophacinone 0.5% w/V oil concentrate

HS-code: 380899 10 00



R: 24/25-33-48/24/25-55, S: 1-13-36/37-45

UN sz: UN 2996 Hazard class: 6.1. Packing group: III.

Storage: 15-25 °C

27591-2-99-43 according to specification kg

Specification

Appearance deep red liquid
 Identity for chlorophacinone (HPLC) positive
 Chlorophacinone content (HPLC) 0.50-0.53% (m/V)
 Density (20 °C) 0.845-0.865 g/ml

Chlorophacinone 1 OC

Chlorophacinone 1.0% w/V oil concentrate

HS-code: 380899 10 00



R: 24/25-33-48/24/25-55, S: 1-13-36/37-45

UN sz: UN 2996 Hazard class: 6.1. Packing group: III.

Storage: 15-25 °C

27593-2-99-43 according to specification kg

Specification

Appearance deep red liquid
 Identity for chlorophacinone (HPLC) positive
 Chlorophacinone content (HPLC) 1.00-1.06% (m/V)
 Density (20 °C) 0.850-0.870 g/ml

Chlorophacinone

Chlorophacinone

C₂₃H₁₅ClO₃, M=374.83

CAS[3691-35-8], EINECS:[223-003-0], Merck Index: (14) 2152

HS-code: 291470 00 90



R: 23-27/28-48/24/25-50/53, S: 1/2-13-36/37-45-60-61

UN sz: UN 2761 Hazard class: 6.1. Packing group: I.

Storage: 15-25 °C

17020-2-99-25 according to specification 100 g

17020-2-99-33 according to specification 500 g

17020-2-99-43 according to specification kg

Specification

Appearance yellow powder
 Identity (IR) passes test
 Assay (HPLC, dried substance) 98.0-102.0%
 Solubility (1.0 g/100 ml acetone) clear
 Melting range 142.0-146.0 °C
 Loss on drying (105 °C, 3 h) max. 1.0%
 Residue on ignition (SO₄) max. 0.2%
 Related substances (HPLC) max. 2.0%

Oxalacetic acid

Oxalacetic acid

C₄H₄O₅, M=132.07

CAS[328-42-7], EINECS:[206-329-8], Merck Index: (14) 6909

HS-code: 291830 00 90



R: 34, S: 1/2-26-36/37/39-45

UN sz: UN 3261 Hazard class: 8. Packing group: III.

Storage: below 10 °C

25380-2-08-25 puriss. 100 g

25380-2-08-33 puriss. 500 g

25380-2-08-43 puriss. kg

Specification

Appearance white to off-white crystalline powder
 Identity (IR) passes test
 Assay (T) 98.0-101.0%
 Solubility (10.0 g/100 ml water) clear, max. 100 Hazen
 Residue on ignition (SO₄) max. 0.1%
 Acetone (GC) max. 1.0%
 Water (KF) max. 1.0%
 Chloride (Cl) max. 0.01%
 Heavy metals (Pb) max. 0.001%

Periodic acid

Periodic acid

H₅IO₆, M=227.94

CAS[10450-60-9], EINECS:[233-937-0], Merck Index: (14) 7171

HS-code: 281119 80 00



R: 34-8, S: 1/2-26-36/37/39-45

UN sz: UN 3085 Hazard class: 5.1. (8.) Packing group: III.

Storage: 15-25 °C

25790-2-08-25 puriss. 100 g

25790-2-08-33 puriss. 500 g

25790-2-08-43 puriss. kg

Specification

Appearance white to off-white crystals
 Assay (RT) 99.0-101.0%
 Insoluble in water max. 0.01%
 Residue on ignition (SO₄) max. 0.05%
 Iodic acid max. 1.0%
 Bromide, bromate, chloride, chlorate (Cl) max. 0.02%
 Iodide (I) max. 0.001%
 Nitrate (NO₃) max. 0.01%
 Sulfate (SO₄) max. 0.01%
 Calcium (Ca) max. 0.005%
 Cadmium (Cd) max. 0.005%
 Cobalt (Co) max. 0.005%
 Copper (Cu) max. 0.005%
 Potassium (K) max. 0.01%
 Iron (Fe) max. 0.005%
 Sodium (Na) max. 0.01%
 Nickel (Ni) max. 0.005%
 Lead (Pb) max. 0.005%
 Zinc (Zn) max. 0.005%
 Heavy metals (Pb) max. 0.005%

The Contents of the Reanal label

1 - REANAL PRIVATE LTD.
Telepes u. 53, Budapest, Hungary H-1147

2 - 25380-2-08-43

3 - kg

4 - REANAL

5 - Oxalacetic acid

6 - puriss.


7 - $C_4H_4O_5$

8 - CAS: 328-42-7

9 - EU No.: 206-329-8

10 - M:132.07

11 - UN:3261

12 -  C

13 - Phone: +36(1) 467-7535
E-mail: reanal@reanal.hu

14 - R:34 S:1/2-26-36/37/39-45

15 - Lot No.: KTA05431

16 - Filling code: 02

17 - Retest: 06.2011.

18 - Retest date (mm.yyyy)

Appearance: white to off-white crystalline powder

Identity (IR): passes test

Assay (T): 98.0-101.0%

Solubility (10.0 g/100 ml water): clear, max. 100

Residue on ignition (SO_2): Hazen

Acetone (GC): max. 0.1%

Water (KF): max. 1.0%

Chloride (Cl): max. 0.01%

Heavy metals (Pb): max. 0.001%

Causes burns.
Keep locked up and out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Store: below 10 °C

8 - CAS number

9 - EU number

10 - Molecular weight

11 - Density (in case of liquids, in this case it is not present)

12 - UN number

13 - Codes of R and S phrases

14 - R and S phrases

15 - Hazard symbols

16 - Batch number

17 - Filling code

18 - Retest date (mm.yyyy)

- 1 - Specification
- 2 - Catalog number (order number)
- 3 - Net quantity
- 4 - Storage temperature
- 5 - Product name
- 6 - Quality
- 7 - Molecular formula

- 8 - CAS number
- 9 - EU number
- 10 - Molecular weight
- 11 - Density (in case of liquids, in this case it is not present)
- 12 - UN number
- 13 - Codes of R and S phrases
- 14 - R and S phrases
- 15 - Hazard symbols
- 16 - Batch number
- 17 - Filling code
- 18 - Retest date (mm.yyyy)

ISO Certificate

CERTIFICATE



Management system as per ISO 9001:2000

In accordance with TÜV CERT procedures, it is hereby certified that

Reanal Finomvegyszergyár ZRt.
1147 Budapest
Telepes u. 53.
Site: 1147 Budapest, Telepes u 54-56.
Hungary

applies a quality system in line with the above standard for the following scope

development, manufacture, marketing and sales of laboratory and analytical chemicals, reagents, finechemical and agrochemical products, diagnostics.

Certificate Registration No. **75 100 9007**
Contract No. 0041-40142/1466

Valid until **2011-07-30**
Initial certification: July 1996

A handwritten signature in black ink, appearing to read 'Négyesi Sándor'.

TÜV CERT Certification Body
TÜV Rheinland InterCert

Budapest, 2008-08-22

This certification was conducted in accordance with the TÜV CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV Rheinland InterCert Kft. 1132 Budapest, Váci út 48/a-b. www.tuvrheinland.hu.



TGA-ZM-25-96-00

Ordering Information, Conditions of Sales

How to order

Orders can be placed by fax, e-mail or letter. Orders become valid after being acknowledged by an Order Confirmation.

Enquiries

Please use the online enquiry form (www.reanal.com) or simply send us a fax (+36-1-384-3102) or an e-mail (sales@reanal.hu). The enquiry form can also be used to request bulk quantities or materials, that you do not find on our online product list. If you have any queries please do not hesitate to contact us by any means.

Address, contact information

Reanal Finechemical Private Co. Ltd. (registered full name) **Reanal Private Ltd.** (registered short name)

Telepes u. 53., Budapest, H-1147, Hungary

Sales and Procurement (direct): Tel.:+ 36 (1) 467-7521

Fax: +36 (1) 384-3102, E-mail: sales@reanal.hu, Web: www.reanal.com

Our managers are happy to help you if you have any questions.

Trade numbers:

Registration No: 01-10-042099, VAT No. (EU reg.): HU10810415, VPID No. (Customs): HU0000019549

Delivery information

Products on stock are normally shipped in 3-5 working days from the receipt of the order. Products manufactured upon order are dispatched on the day indicated on the Order Confirmation.

- **Delivery terms:** FCA Budapest, Incoterms 2000 (freight cost to be paid by the Buyer), unless otherwise agreed in writing.
- **Payment terms:** Payment is expected in EUR or USD within 8 days net by bank transfer (wire transfer, SWIFT) unless otherwise agreed in writing. The first order of a new customer should usually be paid prior to dispatch.

Warranty, liability

- All products are for professional use only and REANAL will not be liable for any careless, inappropriate or contingent damages of any kind. All claims must be received in writing within 30 days from the date of receipt of consignment. The warranty applies only to products that have not been misused or damaged by accident or negligence.
- Products can not be returned without our consent. Please contact us for appropriate return instructions on arrangements, such as packaging, mode of transport, proper documents, customs declaration, etc. Any damages, costs, duties and fines in relation to unapproved return conditions, arrangements and similar are to be charged to the Sender.



REANAL

Member of the
HUMET.GROUP



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