

Plant Growth Regulators

Auxins

4-Chlorophenoxyacetic acid

C 0413	(p-Chlorophenoxyacetic acid; 4-CPA)	25 g
RT	CAS No. 122-88-3	50 g
	C ₈ H ₇ ClO ₃ FW 186.6	100 g
	Plant cell culture, tested, crystalline	500 g
	R: 22	

2,4-Dichlorophenoxyacetic acid

D 7299	(2,4-D)	100 g
RT	CAS No. 94-75-7	250 g
◆	C ₈ H ₆ Cl ₂ O ₃ FW 221.0	
	Plant cell culture, tested, minimum98%, crystalline	
	Color: off-white to tan	
	R: 22-37-41-43-52/53 S: 24/25-26-36/37/39-46-61	

(2,4-Dichlorophenoxy)acetic acid sodium salt monohydrate

D 6679	(Sodium 2,4-dichlorophenoxyacetate monohydrate; 2,4-D sodium salt monohydrate)	5 g
RT	CAS No. 2702-72-9	25 g
	C ₈ H ₅ Cl ₂ NaO ₃ · H ₂ O FW 261.0	
	Plant cell culture, tested	
	Solubility	
	water: soluble	
	R: 22-41-43-51/53 S: 24/25-26-36/37/39-46-61	

3-Indoleacetic acid

I 2886	(Heteroauxin; 3-Indolylacetic acid; IAA)	5 g
-0°C	CAS No. 87-51-4	25 g
	C ₁₀ H ₉ NO ₂ FW 175.2	100 g
	Plant cell culture, tested, crystalline	
	Color: off-white to tan	
	S: 22-24/25	

Indole-3-acetic acid sodium salt

I 5148	(Heteroauxin; IAA)	2 g
2-8°C	CAS No. 6505-45-9	10 g
	C ₁₀ H ₈ NO ₂ Na FW 197.2	
	Plant cell culture, tested, minimum98%	
	Solubility	
	water: soluble	
	S: 22-24/25	

Indole-3-acetyl-L-aspartic acid

I 9387	(IAA-L-Asp)	50 mg
-0°C	CAS No. 2456-73-7	
	Plant cell culture, tested	

Indole-3-butyric acid

(IBA; 4-(3-Indolyl)butanoic acid)

I 5386	Indole-3-butyric acid	1 g
2-8°C	(4-(3-Indolyl)butyric acid)	5 g
◆	CAS No. 133-32-4	25 g
	C ₁₂ H ₁₃ NO ₂ FW 203.2	
	Plant cell culture, tested	
	R: 25-36/37/38 S: 26-37-45	

I 7512	Indole-3-butyric acid potassium salt	5 g
2-8°C	CAS No. 60096-23-3	25 g
	C ₁₂ H ₁₂ NO ₂ K FW 241.3	
	Plant cell culture, tested	
	S: 22-24/25	

Indole-3-propionic acid

I 8639	(3-(3-Indolyl)propanoic acid; 3-(3-Indolyl)propionic acid; IPA)	5 g
-0°C	CAS No. 830-96-6	
	C ₁₁ H ₁₁ NO ₂ FW 189.2	
	Plant cell culture, tested, crystalline	
	Color: light yellow	
	S: 22-24/25	

Methyl indole-3-acetate

I 9770	(Indole-3-acetic acid methyl ester; Methyl 3-indolylacetate)	1 g
2-8°C	CAS No. 1912-33-0	
	C ₁₁ H ₁₁ NO ₂ FW 189.2	
	suitable (Standard for IAA Immunoassay Kit, PGR-3), minimum99%	
	S: 22-24/25	

1-Naphthaleneacetic acid

(NAA)

N 0640	1-Naphthaleneacetic acid	25 g
RT	(α-Naphthaleneacetic acid; 1-Naphthylacetic acid)	100 g
	CAS No. 86-87-3	
	C ₁₂ H ₁₀ O ₂ FW 186.2	
	Plant cell culture, tested, approx.97%, crystalline	
	Color: light yellow	
	R: 22-37/38-41 S: 22-26-36	

N 1641	1-Naphthaleneacetic acid solution	50 mL
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(α-Naphthaleneacetic acid solution)
CAS No. 86-87-3
1 mg/mL, Plant cell culture, tested
sterile-filtered
S: 23-24/25

N 1145	1-Naphthaleneacetic acid potassium salt	100 g
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(α-Naphthaleneacetic acid)
CAS No. 15165-79-4
C₁₂H₉O₂K FW 224.3
Plant cell culture, tested, approx.95%
R: 36/37/38 S: 26-36

2-Naphthoxyacetic acid

N 3019	(BNOA)	25 g
RT	CAS No. 120-23-0	100 g
	C ₁₂ H ₁₀ O ₃ FW 202.2	500 g
	practical grade, Plant cell culture, tested, crystalline	
	Color: gray	
	R: 22-36/37/38 S: 26-36	

Phenylacetic acid

P 6061	(Benzeneacetic acid; α-Tolylic acid; PAA)	500 g
RT	CAS No. 103-82-2	
	C ₆ H ₅ CH ₂ CO ₂ OH FW 136.1	
	Plant cell culture, tested	
	R: 36/37/38 S: 26-36	

Picloram

P 5575	(4-Amino-3,5,6-trichloro-pyridine-2-carboxylic acid; 4-Amino-3,5,6-trichloropicolinic acid)	10 g
RT	CAS No. 1918-02-1	50 g
	C ₆ H ₃ Cl ₃ N ₂ O ₂ FW 241.5	
	Plant cell culture, tested	
	R: 36 S: 26-36	

Plant Growth Regulators

Auxins

2,4,5-Trichlorophenoxyacetic acid

T 5785	(2,4,5-T)	25 g
RT	CAS No. 93-76-5	
◆	C ₈ H ₅ Cl ₃ O ₃ FW 255.5	
	Plant cell culture, tested, approx.97%, crystalline	
	Color. off-white to yellow	
	R: 21/22-36/37/38-40-50/53 S: 27-28-36/37/39-45-60-61	

2,3,5-Triiodobenzoic acid

T 5910	(TIBA)	5 g
-0°C	CAS No. 88-82-4	10 g
	C ₇ H ₃ I ₃ O ₂ FW 499.8	25 g
	Plant cell culture, tested, approx.97% (titration)	
	R: 22 S: 22-26-36	

Cytokinins

Adenine

A 5665	Adenine	25 g
RT	(6-Aminopurine; Vitamin B ₄)	100 g
	CAS No. 73-24-5	
	C ₅ H ₅ N ₅ FW 135.1	
	Plant cell culture, tested, minimum99%	
	R: 22 S: 22-26-36	
A 2545	Adenine sulfate salt	25 g
RT	(6-Aminopurine hemisulfate salt; Adenine hemisulfate salt)	100 g
	CAS No. 321-30-2	500 g
	C ₅ H ₅ N ₅ · 1/2H ₂ SO ₄ FW 368.3	
	Plant cell culture, tested, minimum99%	
	powder	
	Solubility	
	0.5 N HCL. 10 mg/mL	
	S: 22-24/25	

6-Benzylaminopurine

(N⁶-Benzyladenine; BA)

B 3408	6-Benzylaminopurine	100 mg
RT	CAS No. 1214-39-7	500 mg
	C ₁₂ H ₁₁ N ₅ FW 225.3	1 g
	Plant cell culture, tested	5 g
	R: 36/37/38 S: 26-36	25 g
B 3274	6-Benzylaminopurine solution	50 mL
-2-8°C	1 mg/mL, Plant cell culture, tested	
	sterile-filtered	
	S: 23-24/25	
B 5920	6-Benzylaminopurine hydrochloride	250 mg
RT	CAS No. 162714-86-5	1 g
	C ₁₂ H ₁₁ N ₅ · HCl FW 261.7	5 g
	Plant cell culture, tested, minimum98%	
	Solubility	
	water.soluble	
	R: 36/37/38 S: 26-36	

N-Benzyl-9-(2-tetrahydropyranyl)adenine

(6-Benzylamino-9-(2-tetrahydropyranyl)-9H-purine; BPA)
 CAS No. 2312-73-4
 C₁₇H₁₉N₅O FW 309.4
 R: 22 S: 26-36

B 2275	Plant cell culture, tested	500 mg
-0°C		1 g

B 1655	Plant cell culture, tested	50 mg
-0°C	Similar to B 2275, but produced by Sigma.	100 mg

N-(2-Chloro-4-pyridyl)-N'-phenylurea

C 2791	(4-CPPU; CPPU)	25 mg
-2-8°C	CAS No. 68157-60-8	100 mg
	C ₁₂ H ₁₀ ClN ₃ O FW 247.7	
	Plant cell culture, tested	
	References	
	Takahashi, S., et al., <i>Phytochem.</i> 17 , 1201 (1978)	
	R: 36/37 S: 26-36	

6-(γ,γ-Dimethylallylamino)purine

(2iP; N⁶-(2-Isopentenyl)adenine)
 CAS No. 2365-40-4

D 7660	6-(γ,γ-Dimethylallylamino)purine	50 mL
-0°C	C ₁₀ H ₁₃ N ₅ FW 203.2	
	1 mg/mL, Plant cell culture, tested	
	sterile-filtered	

6-(γ,γ-Dimethylallylamino)purine

C₁₀H₁₃N₅ FW 203.2
 S: 22-24/25

D 5912	Commercial Grade, Plant cell culture, tested, minimum90%	1 g
-0°C		5 g
		10 g
		25 g

D 7674	Plant cell culture, tested, minimum98.5%	1 g
-0°C		5 g
		10 g

N,N'-Diphenylurea

D 7535	(1,3-Diphenylurea; Carbanilide)	25 g
RT	CAS No. 102-07-8	
	(C ₆ H ₅ NH) ₂ CO FW 212.3	
	Plant cell culture, tested	
	S: 22-24/25	

Kinetin

(N⁶-Furfuryladenine; 6-Furfurylamino)purine)

Kinetin

CAS No. 525-79-1
 C₁₀H₉N₅O FW 215.2
 S: 22-24/25

K 0753	Plant cell culture, tested, crystalline	1 g
RT	Color. white	5 g
		25 g

K 3378	Commercial Grade, Plant cell culture, tested, Amorphous powder	1 g
RT		5 g
	Color. off-white	25 g


K 3253	Kinetin solution	100 mL
-0°C	CAS No. 525-79-1	
	1 mg/mL, Plant cell culture, tested	
	sterile-filtered	
	S: 23-24/25	

Plant Growth Regulators


Cytokinins

(Continuation of)


Kinetin

K 1885	Kinetin hydrochloride	100 mg
	CAS No. 177966-68-6	500 mg
	$C_{10}H_9N_5O \cdot HCl$ FW 251.7	2 g
	Plant cell culture, tested, minimum 98%	
	Solubility	
	water	soluble

Thidiazuron


P 6186	CAS No. 51707-55-2	25 mg
	$C_9H_8N_4OS$ FW 220.3	100 mg
	Plant cell culture, tested	500 mg
	R: 36/37/38 S: 22-26-36	


Zeatin

Z 0164	(6-(4-Hydroxy-3-methylbut-2-enylamino)purine)	1 mg
		5 mg
	CAS No. 13114-27-7	10 mg
	$C_{10}H_{13}N_5O$ FW 219.2	50 mg
	Plant cell culture, tested, powder	250 mg
	Mixed isomers	1 g
	Approx. 80% trans; balance primarily cis.	
	Color	off-white to yellow
	S: 22-24/25	


trans-Zeatin

(N⁶-(4-Hydroxy-3-methyl-2-buten-1-yl)adenine;
6-(4-Hydroxy-3-methylbut-2-enylamino)purine)

Z 0876	trans-Zeatin	5 mg
	CAS No. 1637-39-4	10 mg
	$C_{10}H_{13}N_5O$ FW 219.2	50 mg
	Plant cell culture, tested, minimum 97%	250 mg
	S: 22-24/25	


Z 2753	trans-Zeatin hydrochloride	2 mg
	CAS No. 6025-81-6	5 mg
	$C_{10}H_{13}N_5O \cdot HCl$ FW 255.7	25 mg
	Plant cell culture, tested, minimum 97%	
	Solubility	
	water	soluble

trans-Zeatin-riboside


Z 3541	(N ⁶ -(trans-4-Hydroxy-3-methyl-2-buten-1-yl)adenosine; 9-(β-D-Ribofuranosyl)-trans-zeatin)	10 mg
		50 mg
		250 mg
	CAS No. 6025-53-2	
	$C_{15}H_{21}N_5O_5$ FW 351.4	
	Plant cell culture, tested, approx. 95%	

Growth Regulator Detection Kits


Abscisic acid immunoassay detection kit

PGR-1	Components:	1 kit
	module of 8 sensitized wells per strip, 12 strips	
	◆ PGR tracer,	
	stopping reagent,	
	substrate,	
	substrate diluent,	
	technical insert,	
	tracer diluent,	
	wash solution,	
	R: 46-5-26/27/28-32-34 S: 53-36/37/39-45	


Indole-3-acetic acid immunoassay detection kit

PGR-3	Components:	1 kit
	module of 8 sensitized wells per strip, 12 strips	
	◆ PGR tracer,	
	stopping reagent,	
	substrate,	
	substrate diluent,	
	technical insert,	
	tracer diluent,	
	wash solution,	
	R: 46-5-26/27/28-32-34 S: 53-36/37/39-45	

Isopentenyl adenosine immunoassay detection kit


PGR-4	Components:	1 kit
	module of 8 sensitized wells per strip, 12 strips	
	◆ PGR tracer,	
	stopping reagent,	
	substrate,	
	substrate diluent,	
	technical insert,	
	tracer diluent,	
	wash solution,	
	R: 46-5-26/27/28-32-34 S: 53-36/37/39-45	

trans-Zeatin riboside immunoassay detection kit


PGR-5	Components:	1 kit
	module of 8 sensitized wells per strip, 12 strips	
	◆ PGR tracer,	
	stopping reagent,	
	substrate,	
	substrate diluent,	
	technical insert,	
	tracer diluent,	
	wash solution,	
	R: 46-5-26/27/28-32-34 S: 53-36/37/39-45	

Miscellaneous Plant Growth Regulators


(±)-Abscisic acid

A 1049	(Dormin; (2-cis,4-trans)-5-(1-Hydroxy-2,6,6-trimethyl-4-oxo-2-cyclohexen-1-yl)-3-methyl-2,4-pentadienoic acid; ABA)	100 mg
		250 mg
	CAS No. 14375-45-2	
	$C_{15}H_{20}O_4$ FW 264.3	
	Plant cell culture, tested, approx. 99%, powder	
	Solubility	
	methanol	50 mg/mL, may be clear to slightly hazy.

Ancymidol

A 9431	(α-Cyclopropyl-α-(4-methoxyphenyl)-5-pyrimidinemethanol)	25 mg
		100 mg
	CAS No. 12771-68-5	
	$C_{15}H_{16}N_2O_2$ FW 256.3	
	Plant cell culture, tested	
	S: 22-24/25	

Chlorocholine chloride

C 4049	(Choline dichloride; Chlormequat chloride; (2-Chloroethyl)trimethylammonium chloride)	5 g
		25 g
	CAS No. 999-81-5	
	$(CH_3)_3N(Cl)CH_2CH_2Cl$ FW 158.1	
	Plant cell culture, tested	
	R: 21/22 S: 36/37	

Plant Growth Regulators

Miscellaneous Plant Growth Regulators

Daminozide

S 2022 (Succinic acid mono(2,2-dimethylhydrazide)) 10 g
 [2-8°C] CAS No. 1596-84-5 25 g
 $C_6H_{12}N_2O_3$ FW 160.2 100 g
Plant cell culture, tested
 R: 40 S: 36/37

Dicamba

D 5417 (3,6-Dichloro-o-anisic acid; 3,6-Dichloro-2-methoxybenzoic acid) 100 mg
 [2-8°C] CAS No. 1918-00-9 1 g
 $Cl_2C_6H_2(OCH_3)CO_2H$ FW 221.0
Plant cell culture, tested
 R: 22-41-52/53 S: 26-61

Gibberellic acid

(Gibberellin A₃; GA₃)

G 7645 Gibberellic acid 500 mg
 [RT] CAS No. 77-06-5 1 g
 $C_{19}H_{22}O_6$ FW 346.4 5 g
Plant cell culture, tested,
minimum90% as GA₃ (of total
gibberellins.) 10 g
 R: 36 S: 26-36

G 1025 Gibberellic acid potassium salt 1 g
 [RT] CAS No. 125-67-7 5 g
 $C_{19}H_{21}O_6K$ FW 384.5 10 g
Plant cell culture, tested, approx.95%,
minimum50% as Total GA₃
 S: 22-24/25

Gibberellin A₄

G 7276 CAS No. 468-44-0 5 mg
 [-0°C] $C_{19}H_{24}O_5$ FW 332.4
Plant cell culture, tested, minimum90%
 gibberellin A₇. <5%

Gibberellin A₇

G 7151 CAS No. 510-75-8 5 mg
 [-0°C] $C_{19}H_{22}O_5$ FW 330.4
Plant cell culture, tested, approx.90%
 gibberellin A₄. 1%

(-)-Jasmonic acid

J 2750 ((-)-1 α ,2 β -3-Oxo-2-(cis-2-pentenyl)cyclopentaneacetic acid) 1 mg
 [2-8°C] CAS No. 6894-38-8
 $C_{12}H_{18}O_3$ FW 210.3
 Naturally occurring plant growth regulator.
References
 1. Husain, K., et al., *J. Nat. Prod.* **56**, 2008 (1993)
 2. Miersch, O., et al., *Plant Growth Regul.* **5**, 91 (1986)
 3. Hamberg, M., and Gardner, H.W., *Biochim. Biophys. Acta* **1165**, 1 (1992)

(±)-Jasmonic acid

J 2500 ((±)-1 α ,2 β -3-Oxo-2-(cis-2-pentenyl)cyclopentaneacetic acid) 100 mg
 [2-8°C] CAS No. 3572-66-5 250 mg
 $C_{12}H_{18}O_3$ FW 210.3
Plant cell culture, tested, liquid
 Note: This product is a clear, colorless to very light yellow oil that adheres to the surface of the vial.

Phloroglucinol

P 1178 (1,3,5-Trihydroxybenzene) 100 g
 [RT] CAS No. 108-73-6
 $C_6H_6O_3$ FW 126.1
Plant cell culture, tested

N-(Phosphonomethyl)glycine

P 9556 (Glyphosate) 5 g
 [RT] CAS No. 1071-83-6
 $C_3H_8NO_5P$ FW 169.1
Plant cell culture, tested, approx.95%
 R: 41-51/53 S: 26-39-61