WORLD ANTI-DOPING AGENCY
play true

WORLD ANTI-DOPING CODE

INTERNATIONAL STANDARD

# PROHIBITED LIST

2022

This List shall come into effect on 1 January 2022.

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Please note that the list of examples of medical conditions below is not inclusive.


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# THE 2022 PROHIBITED LIST WORLD ANTI-DOPING CODE

## VALID 1 JANUARY 2022

Introduction

The *Prohibited List* is a mandatory *International Standard* as part of the World Anti-Doping Program.

The *List* is updated annually following an extensive consultation process facilitated by *WADA*. The effective date of the *List* is 01 January 2022.

The official text of the *Prohibited List* shall be maintained by *WADA* and shall be published in English and French. In the event of any conflict between the English and French versions, the English version shall prevail.

Below are some terms used in this *List* of *Prohibited Substances* and *Prohibited Methods*.

***Prohibited In-Competition***

Subject to a different period having been approved by *WADA* for a given sport, the *In-Competition* period shall in principle be the period commencing just before midnight (at 11:59 p.m.) on the day before a *Competition* in which the *Athlete* is scheduled to participate until the end of the *Competition* and the *Sample* collection process.

***Prohibited*** at all times

This means that the substance or method is prohibited *In-* and *Out-of-Competition* as defined in the *Code*.

***Specified*** and ***non-Specified***

As per Article 4.2.2 of the *World Anti-Doping Code*, "for purposes of the application of Article 10, all *Prohibited Substances* shall be *Specified Substances* except as identified on the *Prohibited List*. No *Prohibited Method* shall be a *Specified Method* unless it is specifically identified as a *Specified Method* on the *Prohibited List*". As per the comment to the article, "the *Specified Substances* and *Methods* identified in Article 4.2.2 should not in any way be considered less important or less dangerous than other doping substances or methods. Rather, they are simply substances and methods which are more likely to have been consumed or used by an *Athlete* for a purpose other than the enhancement of sport performance."

***Substances of Abuse***

Pursuant to Article 4.2.3 of the Code, *Substances of Abuse* are substances that are identified as such because they are frequently abused in society outside of the context of sport. The following are designated *Substances of Abuse*: cocaine, diamorphine (heroin), methylenedioxymethamphetamine (MDMA/"ecstasy"), tetrahydrocannabinol (THC).

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# S0 NON-APPROVED SUBSTANCES

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited substances in this class are *Specified Substances*.

Any pharmacological substance which is not addressed by any of the subsequent sections of the *List* and with no current approval by any governmental regulatory health authority for human therapeutic use (e.g. drugs under pre-clinical or clinical development or discontinued, designer drugs, substances approved only for veterinary use) is prohibited at all times.

This class covers many different substances including but not limited to BPC-157.

# S1 ANABOLIC AGENTS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited substances in this class are non-*Specified Substances*.

Anabolic agents are prohibited.

### 1. ANABOLIC ANDROGENIC STEROIDS (AAS)

When administered exogenously, including but not limited to:

- 1-Androstenediol (5α-androst-1-ene-3β, 17β-diol)
- 1-Androstenedione (5α-androst-1-ene-3, 17-dione)
- 1-Androsterone (3α-hydroxy-5α-androst-1-ene-17-one)
- 1-Epiandrosterone (3β-hydroxy-5α-androst-1-ene-17-one)
- 1-Testosterone (17β-hydroxy-5α-androst-1-en-3-one)
- 4-Androstenediol (androst-4-ene-3β,17β-diol)
- 4-Hydroxytestosterone (4,17β-dihydroxyandrost-4-en-3-one)
- 5-Androstenedione (androst-5-ene-3,17-dione)
- 7α-hydroxy-DHEA
- 7β-hydroxy-DHEA
- 7-Keto-DHEA
- 19-Norandrostenediol (estr-4-ene-3,17-diol)
- 19-Norandrostenedione (estr-4-ene-3,17-dione)
- Androstanolone (5α-dihydrotestosterone, 17β-hydroxy-5α-androstan-3-one)
- Androstenediol (androst-5-ene-3β,17β-diol)
- Androstenedione (androst-4-ene-3,17-dione)
- Bolasterone
- Boldenone
- Boldione (androsta-1,4-diene-3,17-dione)
- Calusterone
- Clostebol
- Danazol ([1,2]oxazolo[4′,5′:2,3]pregna-4-en-20-yn-17α-ol)
- Dehydrochlormethyltestosterone (4-chloro-17β-hydroxy-17α-methylandrosta-1,4-dien-3-one)
- Desoxymethyltestosterone (17α-methyl-5α-androst-2-en-17β-ol and 17α-methyl-5α-androst-3-en-17β-ol)
- Drostanolone
- Epiandrosterone (3β-hydroxy-5α-androstan-17-one)
- Epi-dihydrotestosterone (17β-hydroxy-5β-androstan-3-one)
- Epitestosterone
- Ethylestrenol (19-norpregna-4-en-17α-ol)
- Fluoxymesterone
- Formebolone
- Furazabol (17α-methyl [1,2,5] oxadiazolo[3′,4′:2,3]-5α-androstan-17β-ol)
- Gestrinone
- Mestanolone

# S1 ANABOLIC AGENTS (continued)

## 1. ANABOLIC ANDROGENIC STEROIDS (AAS) (continued)

- Mesterolone
- Metandienone (17β-hydroxy-17α-methylandrosta-1,4-dien-3-one)
- Metenolone
- Methandriol
- Methasterone (17β-hydroxy-2α,17α-dimethyl-5α-androstan-3-one)
- Methyl-1-testosterone (17β-hydroxy-17α-methyl-5α-androst-1-en-3-one)
- Methylclostebol
- Methyldienolone (17β-hydroxy-17α-methylestra-4,9-dien-3-one)
- Methylnortestosterone (17β-hydroxy-17α-methylestr-4-en-3-one)
- Methyltestosterone
- Metribolone (methyltrienolone, 17β-hydroxy-17α-methylestra-4,9,11-trien-3-one)
- Mibolerone
- Nandrolone (19-nortestosterone)
- Norboletone
- Norclostebol (4-chloro-17β-ol-estr-4-en-3-one)
- Norethandrolone
- Oxabolone
- Oxandrolone
- Oxymesterone
- Oxymetholone
- Prasterone (dehydroepiandrosterone, DHEA, 3β-hydroxyandrost-5-en-17-one)
- Prostanozol (17β-[(tetrahydropyran-2-yl)oxy]-1'H-pyrazolo[3,4:2,3]-5α-androstane)
- Quinbolone
- Stanozolol
- Stenbolone
- Testosterone
- Tetrahydrogestrinone (17-hydroxy-18a-homo-19-nor-17α-pregna-4,9,11-trien-3-one)
- Tibolone
- Trenbolone (17β-hydroxyestr-4,9,11-trien-3-one)

and other substances with a similar chemical structure or similar biological effect(s).

## 2. OTHER ANABOLIC AGENTS

Including, but not limited to:

Clenbuterol, osilodrostat, selective androgen receptor modulators [SARMs, e.g. andarine, enobosarm (ostarine), LGD-4033 (ligandrol) and RAD140], zeranol and zilpaterol.

# S2 PEPTIDE HORMONES, GROWTH FACTORS, RELATED SUBSTANCES, AND MIMETICS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited substances in this class are non-*Specified Substances*.

The following substances, and other substances with similar chemical structure or similar biological effect(s), are prohibited.

### 1. ERYTHROPOIETINS (EPO) AND AGENTS AFFECTING ERYTHROPOIESIS

Including, but not limited to:

1.1 Erythropoietin receptor agonists, e.g. darbepoetins (dEPO); erythropoietins (EPO); EPO-based constructs [e.g. EPO-Fc, methoxy polyethylene glycol-epoetin beta (CERA)]; EPO-mimetic agents and their constructs (e.g. CNTO-530, peginesatide).

1.2 Hypoxia-inducible factor (HIF) activating agents, e.g. cobalt; daprodustat (GSK1278863); IOX2; molidustat (BAY 85-3934); roxadustat (FG-4592); vadadustat (AKB-6548); xenon.

1.3 GATA inhibitors, e.g. K-11706.

1.4 Transforming growth factor beta (TGF-β) signalling inhibitors, e.g. luspatercept; sotatercept.

1.5 Innate repair receptor agonists, e.g. asialo EPO; carbamylated EPO (CEPO).

# S2 PEPTIDE HORMONES, GROWTH FACTORS, RELATED SUBSTANCES, AND MIMETICS
(continued)

## 2. PEPTIDE HORMONES AND THEIR RELEASING FACTORS

2.1 Chorionic gonadotrophin (CG) and luteinizing hormone (LH) and their releasing factors in males, e.g. buserelin, deslorelin, gonadorelin, goserelin, leuprorelin, nafarelin and triptorelin

2.2 Corticotrophins and their releasing factors, e.g. corticorelin

2.3 Growth hormone (GH), its analogues and fragments including, but not limited to:

- growth hormone analogues, e.g. lonapegsomatropin, somapacitan and somatrogon
- growth hormone fragments, e.g. AOD-9604 and hGH 176-191

2.4 Growth hormone releasing factors, including, but not limited to:

- growth hormone-releasing hormone (GHRH) and its analogues (e.g. CJC-1293, CJC-1295, sermorelin and tesamorelin)
- growth hormone secretagogues (GHS) and its mimetics [e.g. lenomorelin (ghrelin), anamorelin, ipamorelin, macimorelin and tabimorelin]
- GH-releasing peptides (GHRPs) [e.g. alexamorelin, GHRP-1, GHRP-2 (pralmorelin), GHRP-3, GHRP-4, GHRP-5, GHRP-6, and examorelin (hexarelin)]

## 3. GROWTH FACTORS AND GROWTH FACTOR MODULATORS

Including, but not limited to:

- Fibroblast growth factors (FGFs)
- Hepatocyte growth factor (HGF)
- Insulin-like growth factor 1 (IGF-1) and its analogues
- Mechano growth factors (MGFs)
- Platelet-derived growth factor (PDGF)
- Thymosin-β4 and its derivatives e.g. TB-500
- Vascular endothelial growth factor (VEGF)

and other growth factors or growth factor modulators affecting muscle, tendon or ligament protein synthesis/degradation, vascularisation, energy utilization, regenerative capacity or fibre type switching.

# S3 BETA-2 AGONISTS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited substances in this class are *Specified Substances*.

All selective and non-selective beta-2 agonists, including all optical isomers, are prohibited.

Including, but not limited to:

- Arformoterol
- Fenoterol
- Formoterol
- Higenamine
- Indacaterol
- Levosalbutamol
- Olodaterol
- Procaterol
- Reproterol
- Salbutamol
- Salmeterol
- Terbutaline
- Tretoquinol (trimetoquinol)
- Tulobuterol
- Vilanterol

### EXCEPTIONS

- Inhaled salbutamol: maximum 1600 micrograms over 24 hours in divided doses not to exceed 600 micrograms over 8 hours starting from any dose;
- Inhaled formoterol: maximum delivered dose of 54 micrograms over 24 hours;
- Inhaled salmeterol: maximum 200 micrograms over 24 hours;
- Inhaled vilanterol: maximum 25 micrograms over 24 hours.

### NOTE

The presence in urine of salbutamol in excess of 1000 ng/mL or formoterol in excess of 40 ng/mL is not consistent with therapeutic use of the substance and will be considered as an *Adverse Analytical Finding (AAF)* unless the *Athlete* proves, through a controlled pharmacokinetic study, that the abnormal result was the consequence of a therapeutic dose (by inhalation) up to the maximum dose indicated above.

# S4 HORMONE AND METABOLIC MODULATORS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

Prohibited substances in classes S4.1 and S4.2 are *Specified Substances*. Those in classes S4.3 and S4.4 are non-*Specified Substances*.

The following hormone and metabolic modulators are prohibited.

### 1. AROMATASE INHIBITORS

Including, but not limited to:

- 2-Androstenol (5α-androst-2-en-17-ol)
- 2-Androstenone (5α-androst-2-en-17-one)
- 3-Androstenol (5α-androst-3-en-17-ol)
- 3-Androstenone (5α-androst-3-en-17-one)
- 4-Androstene-3,6,17 trione (6-oxo)
- Aminoglutethimide
- Anastrozole
- Androsta-1,4,6-triene-3,17-dione (androstatrienedione)
- Androsta-3,5-diene-7,17-dione (arimistane)
- Exemestane
- Formestane
- Letrozole
- Testolactone

### 2. ANTI-ESTROGENIC SUBSTANCES [ANTI-ESTROGENS AND SELECTIVE ESTROGEN RECEPTOR MODULATORS (SERMS)]

Including, but not limited to:

- Bazedoxifene
- Clomifene
- Cyclofenil
- Fulvestrant
- Ospemifene
- Raloxifene
- Tamoxifen
- Toremifene

# S4 HORMONE AND METABOLIC MODULATORS (continued)

## 3. AGENTS PREVENTING ACTIVIN RECEPTOR IIB ACTIVATION

Including, but not limited to:

- Activin A-neutralizing antibodies
- Activin receptor IIB competitors such as:
  - Decoy activin receptors (e.g. ACE-031)
- Anti-activin receptor IIB antibodies (e.g. bimagrumab)
- Myostatin inhibitors such as:
  - Agents reducing or ablating myostatin expression
  - Myostatin-binding proteins (e.g. follistatin, myostatin propeptide)
  - Myostatin-neutralizing antibodies (e.g. domagrozumab, landogrozumab, stamulumab)

## 4. METABOLIC MODULATORS

4.1 Activators of the AMP-activated protein kinase (AMPK), e.g. AICAR, SR9009; and peroxisome proliferator-activated receptor delta (PPARδ) agonists, e.g. 2-(2-methyl-4-((4-methyl-2-(4-(trifluoromethyl)phenyl)thiazol-5-yl)methylthio)phenoxy) acetic acid (GW1516, GW501516)

4.2 Insulins and insulin-mimetics

4.3 Meldonium

4.4 Trimetazidine

# S5 DIURETICS AND MASKING AGENTS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited substances in this class are *Specified Substances*.

The following diuretics and masking agents are prohibited, as are other substances with a similar chemical structure or similar biological effect(s).

Including, but not limited to:

- Desmopressin; probenecid; plasma expanders, e.g. intravenous administration of albumin, dextran, hydroxyethyl starch and mannitol.
- Acetazolamide; amiloride; bumetanide; canrenone; chlortalidone; etacrynic acid; furosemide; indapamide; metolazone; spironolactone; thiazides, e.g. bendroflumethiazide, chlorothiazide and hydrochlorothiazide; triamterene and vaptans, e.g. tolvaptan.

### EXCEPTIONS

- Drospirenone; pamabrom; and topical ophthalmic administration of carbonic anhydrase inhibitors (e.g. dorzolamide, brinzolamide);
- Local administration of felypressin in dental anaesthesia.

### NOTE

The detection in an *Athlete's Sample* at all times or *In-Competition*, as applicable, of any quantity of the following substances subject to threshold limits: formoterol, salbutamol, cathine, ephedrine, methylephedrine and pseudoephedrine, in conjunction with a diuretic or masking agent, will be considered as an *Adverse Analytical Finding (AAF)* unless the *Athlete* has an approved *Therapeutic Use Exemption (TUE)* for that substance in addition to the one granted for the diuretic or masking agent.

# PROHIBITED METHODS

## PROHIBITED AT ALL TIMES (IN- AND OUT-OF-COMPETITION)

All prohibited methods in this class are non-*Specified* except methods in M2.2. which are *Specified Methods*.

### M1. MANIPULATION OF BLOOD AND BLOOD COMPONENTS

The following are prohibited:

1. The *Administration* or reintroduction of any quantity of autologous, allogenic (homologous) or heterologous blood, or red blood cell products of any origin into the circulatory system.
2. Artificially enhancing the uptake, transport or delivery of oxygen.
   Including, but not limited to:
   Perfluorochemicals; efaproxiral (RSR13) and modified haemoglobin products, e.g. haemoglobin-based blood substitutes and microencapsulated haemoglobin products, excluding supplemental oxygen by inhalation.
3. Any form of intravascular manipulation of the blood or blood components by physical or chemical means.

### M2. CHEMICAL AND PHYSICAL MANIPULATION

The following are prohibited:

1. *Tampering*, or *Attempting to Tamper*, to alter the integrity and validity of *Samples* collected during *Doping Control.*

   Including, but not limited to:
   *Sample* substitution and/or adulteration, e.g. addition of proteases to *Sample*.

2. Intravenous infusions and/or injections of more than a total of 100 mL per 12-hour period except for those legitimately received in the course of hospital treatments, surgical procedures or clinical diagnostic investigations.

### M3. GENE AND CELL DOPING

The following, with the potential to enhance sport performance, are prohibited:

1. The use of nucleic acids or nucleic acid analogues that may alter genome sequences and/or alter gene expression by any mechanism. This includes but is not limited to gene editing, gene silencing and gene transfer technologies.
2. The use of normal or genetically modified cells.

# S6 STIMULANTS

## PROHIBITED IN-COMPETITION

All prohibited substances in this class are *Specified Substances* except those in S6.A, which are non-*Specified Substances*.

*Substances of Abuse* in this section: cocaine and methylenedioxymethamphetamine (MDMA / "ecstasy")

All stimulants, including all optical isomers, e.g. *d*- and *l*- where relevant, are prohibited.

Stimulants include:

### A: NON-SPECIFIED STIMULANTS

- Adrafinil
- Amfepramone
- Amfetamine
- Amfetaminil
- Amiphenazole
- Benfluorex
- Benzylpiperazine
- Bromantan
- Clobenzorex
- Cocaine
- Cropropamide
- Crotetamide
- Fencamine
- Fenetylline
- Fenfluramine
- Fenproporex
- Fonturacetam [4-phenylpiracetam (carphedon)]
- Furfenorex
- Lisdexamfetamine
- Mefenorex
- Mephentermine
- Mesocarb
- Metamfetamine(*d*-)
- p-methylamfetamine
- Modafinil
- Norfenfluramine
- Phendimetrazine
- Phentermine
- Prenylamine
- Prolintane

A stimulant not expressly listed in this section is a *Specified Substance*.

# S6 STIMULANTS (continued)

## B: SPECIFIED STIMULANTS

Including, but not limited to:

- 3-Methylhexan-2-amine (1,2-dimethylpentylamine)
- 4-fluoromethylphenidate
- 4-Methylhexan-2-amine (methylhexaneamine)
- 4-Methylpentan-2-amine (1,3-dimethylbutylamine)
- 5-Methylhexan-2-amine (1,4-dimethylpentylamine)
- Benzfetamine
- Cathine**
- Cathinone and its analogues, e.g. mephedrone, methedrone, and α - pyrrolidinovalerophenone
- Dimetamfetamine (dimethylamphetamine)
- Ephedrine***
- Epinephrine**** (adrenaline)
- Etamivan
- Ethylphenidate
- Etilamfetamine
- Etilefrine
- Famprofazone
- Fenbutrazate
- Fencamfamin
- Heptaminol
- Hydrafinil (fluorenol)
- Hydroxyamfetamine (parahydroxyamphetamine)
- Isometheptene
- Levmetamfetamine
- Meclofenoxate
- Methylenedioxymethamphetamine
- Methylephedrine***
- Methylnaphthidate [((±)-methyl-2-(naphthalen-2-yl)-2-(piperidin-2-yl)acetate]
- Methylphenidate
- Nikethamide
- Norfenefrine
- Octodrine (1,5-dimethylhexylamine)
- Octopamine
- Oxilofrine (methylsynephrine)
- Pemoline
- Pentetrazol
- Phenethylamine and its derivatives
- Phenmetrazine
- Phenpromethamine
- Propylhexedrine
- Pseudoephedrine*****
- Selegiline
- Sibutramine
- Strychnine
- Tenamfetamine (methylenedioxyamphetamine)
- Tuaminoheptane

and other substances with a similar chemical structure or similar biological effect(s).

## ⓘ EXCEPTIONS

- Clonidine;
- Imidazoline derivatives for dermatological, nasal or ophthalmic use (e.g. brimonidine, clonazoline, fenoxazoline, indanazoline, naphazoline, oxymetazoline, xylometazoline) and those stimulants included in the 2022 Monitoring Program*.

* Bupropion, caffeine, nicotine, phenylephrine, phenylpropanolamine, pipradrol, and synephrine: These substances are included in the 2022 Monitoring Program and are not considered *Prohibited Substances*.

** Cathine (d-norpseudoephedrine) and its l-isomer: Prohibited when its concentration in urine is greater than 5 micrograms per millilitre.

*** Ephedrine and methylephedrine: Prohibited when the concentration of either in urine is greater than 10 micrograms per millilitre.

**** Epinephrine (adrenaline): Not prohibited in local administration, e.g. nasal, ophthalmologic, or co-administration with local anaesthetic agents.

***** Pseudoephedrine: Prohibited when its concentration in urine is greater than 150 micrograms per millilitre.

# S7 NARCOTICS

## PROHIBITED IN-COMPETITION

All prohibited substances in this class are *Specified Substances*.

*Substance of Abuse* in this section: diamorphine (heroin)

The following narcotics, including all optical isomers, e.g. *d*- and *l*- where relevant, are prohibited.

- Buprenorphine
- Dextromoramide
- Diamorphine (heroin)
- Fentanyl and its derivatives
- Hydromorphone
- Methadone
- Morphine
- Nicomorphine
- Oxycodone
- Oxymorphone
- Pentazocine
- Pethidine

# S8 CANNABINOIDS

## PROHIBITED IN-COMPETITION

All prohibited substances in this class are *Specified Substances*.

*Substance of Abuse* in this section: tetrahydrocannabinol (THC)

All natural and synthetic cannabinoids are prohibited, e.g.

- In cannabis (hashish, marijuana) and cannabis products
- Natural and synthetic tetrahydrocannabinols (THCs)
- Synthetic cannabinoids that mimic the effects of THC

### EXCEPTIONS

- Cannabidiol

# S9 GLUCOCORTICOIDS

## PROHIBITED IN-COMPETITION

All prohibited substances in this class are *Specified Substances*.

All glucocorticoids are prohibited when administered by any injectable, oral [including oromucosal (e.g. buccal, gingival, sublingual)] or rectal route.

Including, but not limited to:

- Beclometasone
- Betamethasone
- Budesonide
- Ciclesonide
- Cortisone
- Deflazacort
- Dexamethasone
- Fluocortolone
- Flunisolide
- Fluticasone
- Hydrocortisone
- Methylprednisolone
- Mometasone
- Prednisolone
- Prednisone
- Triamcinolone acetonide

⚠ NOTE

- Other routes of administration (including inhaled, and topical: dental-intracanal, dermal, intra-nasal, ophthalmological and perianal) are not prohibited when used within the manufacturer's licensed doses and therapeutic indications.

# P1 BETA-BLOCKERS

## PROHIBITED IN PARTICULAR SPORTS

All prohibited substances in this class are *Specified Substances*.

Beta-blockers are prohibited *In-Competition* only, in the following sports, and also prohibited *Out-of-Competition* where indicated (*).

- Archery (WA)*
- Automobile (FIA)
- Billiards (all disciplines) (WCBS)
- Darts (WDF)
- Golf (IGF)
- Shooting (ISSF, IPC)*
- Skiing/Snowboarding (FIS) in ski jumping, freestyle aerials/halfpipe and snowboard halfpipe/big air
- Underwater sports (CMAS) in all subdisciplines of freediving, spearfishing and target shooting

*Also prohibited *Out-of-Competition*

Including, but not limited to:

- Acebutolol
- Alprenolol
- Atenolol
- Betaxolol
- Bisoprolol
- Bunolol
- Carteolol
- Carvedilol
- Celiprolol
- Esmolol
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