



The World Anti-Doping Code

THE 2006 PROHIBITED LIST INTERNATIONAL STANDARD

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.

This List shall come into effect on 1 January 2006.

THE 2006 PROHIBITED LIST WORLD ANTI-DOPING CODE

Valid 1 January 2006

The use of any drug should be limited to medically justified indications

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

PROHIBITED SUBSTANCES

S1. ANABOLIC AGENTS

Anabolic agents are prohibited.

1. Anabolic Androgenic Steroids (AAS)

a. Exogenous* AAS, including:

1-androstendiol (5 α -androst-1-ene-3 β ,17 β -diol); **1-androstendione** (5 α -androst-1-ene-3,17-dione); **bolandioli** (19-norandrostenediol); **bolasterone**; **boldenone**; **boldione** (androsta-1,4-diene-3,17-dione); **calusterone**; **clostebol**; **danazol** (17 α -ethynyl-17 β -hydroxyandrost-4-eno[2,3-d]isoxazole); **dehydrochlormethyltestosterone** (4-chloro-17 β -hydroxy-17 α -methylandrosta-1,4-dien-3-one); **desoxymethyltestosterone** (17 α -methyl-5 α -androst-2-en-17 β -ol); **drostanolone**; **ethylestrenol** (19-nor-17 α -pregn-4-en-17-ol); **fluoxymesterone**; **formebolone**; **furazabol** (17 β -hydroxy-17 α -methyl-5 α -androstan-2,3-c-furazan); **gestrinone**; **4-hydroxytestosterone** (4,17 β -dihydroxyandrost-4-en-3-one); **mestanolone**; **mesterolone**; **metenolone**; **methandienone** (17 β -hydroxy-17 α -methylandrosta-1,4-dien-3-one); **methandriol**; **methasterone** (2 α , 17 α -dimethyl-5 α -androstane-3-one-17 β -ol); **methyldienolone** (17 β -hydroxy-17 α -methylestra-4,9-dien-3-one); **methyl-1-testosterone** (17 β -hydroxy-17 α -methyl-5 α -androst-1-en-3-one); **methylnortestosterone** (17 β -hydroxy-17 α -methylestr-4-en-3-one); **methyltrienolone** (17 β -hydroxy-17 α -methylestra-4,9,11-trien-3-one); **methyltestosterone**; **mibolerone**; **nandrolone**; **19-norandrostenedione** (estr-4-ene-3,17-dione); **norboletone**; **norclostebol**; **norethandrolone**; **oxabolone**; **oxandrolone**; **oxymesterone**; **oxymetholone**; **prostanazol** ([3,2-c]pyrazole-5 α -etioallocholane-17 β -tetrahydropyranol); **quinbolone**; **stanozolol**; **stenbolone**; **1-testosterone** (17 β -hydroxy-5 α -

androst-1-en-3-one); **tetrahydrogestrinone** (18a-homo-pregna-4,9,11-trien-17 β -ol-3-one); **trenbolone** and other substances with a similar chemical structure or similar biological effect(s).

b. Endogenous** AAS:

androstenediol (androst-5-ene-3 β ,17 β -diol); **androstenedione** (androst-4-ene-3,17-dione); **dihydrotestosterone** (17 β -hydroxy-5 α -androstan-3-one) ; **prasterone** (dehydroepiandrosterone, DHEA); **testosterone** and the following metabolites and isomers:

5 α -androstane-3 α ,17 α -diol; 5 α -androstane-3 α ,17 β -diol; 5 α -androstane-3 β ,17 α -diol; 5 α -androstane-3 β ,17 β -diol; androst-4-ene-3 α ,17 α -diol; androst-4-ene-3 α ,17 β -diol; androst-4-ene-3 β ,17 α -diol; androst-5-ene-3 α ,17 α -diol; androst-5-ene-3 α ,17 β -diol; androst-5-ene-3 β ,17 α -diol; 4-androstenediol (androst-4-ene-3 β ,17 β -diol); 5-androstenedione (androst-5-ene-3,17-dione); epi-dihydrotestosterone; 3 α -hydroxy-5 α -androstan-17-one; 3 β -hydroxy-5 α -androstan-17-one; 19-norandrosterone; 19-noretiocholanolone.

Where an anabolic androgenic steroid is capable of being produced endogenously, a *Sample* will be deemed to contain such *Prohibited Substance* where the concentration of such *Prohibited Substance* or its metabolites or markers and/or any other relevant ratio(s) in the *Athlete's Sample* so deviates from the range of values normally found in humans that it is unlikely to be consistent with normal endogenous production. A *Sample* shall not be deemed to contain a *Prohibited Substance* in any such case where an *Athlete* proves that the concentration of the *Prohibited Substance* or its metabolites or markers and/or the relevant ratio(s) in the *Athlete's Sample* is attributable to a physiological or pathological condition.

In all cases, and at any concentration, the *Athlete's* sample will be deemed to contain a *Prohibited Substance* and the laboratory will report an *Adverse Analytical Finding* if, based on any reliable analytical method (e.g. IRMS), the laboratory can show that the *Prohibited Substance* is of exogenous origin. In such case, no further investigation is necessary.

If a value in the range of levels normally found in humans is reported and the reliable analytical method (e.g. IRMS) has not determined the exogenous origin of the substance, but if there are serious indications, such as a comparison to reference steroid profiles, of a possible *Use of a Prohibited Substance*, further investigation shall be conducted by the relevant *Anti-Doping Organization* by reviewing the results of any previous test(s) or by conducting subsequent test(s), in order to determine whether the result is due to a physiological or pathological condition, or has occurred as a consequence of the exogenous origin of a *Prohibited Substance*.

When a laboratory has reported a T/E ratio greater than four (4) to one (1) and any reliable analytical method (e.g. IRMS) applied has not determined the exogenous origin of the substance, further investigation may be conducted by a review of previous tests or by conducting subsequent test(s), in order to determine whether the result is due to a physiological or pathological condition, or has occurred as a consequence of the exogenous origin of a *Prohibited Substance*. If a laboratory reports, using an additional reliable analytical method (e.g. IRMS), that the *Prohibited Substance* is of exogenous origin, no further investigation is necessary and the *Sample* will be deemed to contain such *Prohibited Substance*. When an additional reliable analytical method (e.g. IRMS) has not been applied and a minimum of three previous test results are not available, the relevant *Anti-Doping Organization* shall test the *Athlete* with no advance notice at least three times within a three-month period. If the longitudinal profile of the *Athlete* that is subject to the subsequent tests is not physiologically normal, the result shall be reported as an *Adverse Analytical Finding*.

In extremely rare individual cases, boldenone of endogenous origin can be consistently found at very low nanograms per milliliter (ng/mL) levels in urine. When such a very low concentration of boldenone is reported by a laboratory and any reliable analytical method (e.g. IRMS) applied has not determined the exogenous origin of the substance, further investigation may be conducted by a review of previous tests or by conducting subsequent test(s). When an additional reliable analytical method (e.g. IRMS) has not been applied, a minimum of three no advance notice tests in a period of three months shall be conducted by the relevant *Anti-Doping Organization*. If the longitudinal profile of the *Athlete* who is subject to the subsequent tests is not physiologically normal, the result shall be reported as an *Adverse Analytical Finding*.

For 19-norandrosterone, an *Adverse Analytical Finding* reported by a laboratory is considered to be scientific and valid proof of exogenous origin of the *Prohibited Substance*. In such case, no further investigation is necessary.

Should an *Athlete* fail to cooperate in the investigations, the *Athlete's Sample* shall be deemed to contain a *Prohibited Substance*.

Other Anabolic Agents, including but not limited to:

Clenbuterol, tibolone, zeranol, zilpaterol.

For purposes of this section:

* "exogenous" refers to a substance which is not ordinarily capable of being produced by the body naturally.

** "endogenous" refers to a substance which is capable of being produced by the body naturally.

S2. HORMONES AND RELATED SUBSTANCES

The following substances, including other substances with a similar chemical structure or similar biological effect(s), and their releasing factors, are prohibited:

1. **Erythropoietin (EPO);**
2. **Growth Hormone (hGH), Insulin-like Growth Factors (e.g. IGF-1), Mechano Growth Factors (MGFs);**
3. **Gonadotrophins (LH, hCG), prohibited in males only;**
4. **Insulin;**
5. **Corticotrophins.**

Unless the *Athlete* can demonstrate that the concentration was due to a physiological or pathological condition, a *Sample* will be deemed to contain a *Prohibited Substance* (as listed above) where the concentration of the *Prohibited Substance* or its metabolites and/or relevant ratios or markers in the *Athlete's Sample* so exceeds the range of values normally found in humans that it is unlikely to be consistent with normal endogenous production.

If a laboratory reports, using a reliable analytical method, that the *Prohibited Substance* is of exogenous origin, the *Sample* will be deemed to contain a *Prohibited Substance* and shall be reported as an *Adverse Analytical Finding*.

The presence of other substances with a similar chemical structure or similar biological effect(s), diagnostic marker(s) or releasing factors of a hormone listed above or of any other finding which indicate(s) that the substance detected is of exogenous origin, will be deemed to reflect the use of a *Prohibited Substance* and shall be reported as an *Adverse Analytical Finding*.

S3. BETA-2 AGONISTS

All beta-2 agonists including their D- and L-isomers are prohibited.

As an exception, formoterol, salbutamol, salmeterol and terbutaline, when administered by inhalation, require an abbreviated Therapeutic Use Exemption.

Despite the granting of any form of Therapeutic Use Exemption, a concentration of salbutamol (free plus glucuronide) greater than 1000 ng/mL will be considered an *Adverse Analytical Finding* unless the athlete proves that the abnormal result was the consequence of the therapeutic use of inhaled salbutamol.

S4. AGENTS WITH ANTI-ESTROGENIC ACTIVITY

The following classes of anti-estrogenic substances are prohibited:

1. **Aromatase inhibitors including, but not limited to, anastrozole, letrozole, aminoglutethimide, exemestane, formestane, testolactone.**
2. **Selective Estrogen Receptor Modulators (SERMs) including, but not limited to, raloxifene, tamoxifen, toremifene.**
3. **Other anti-estrogenic substances including, but not limited to, clomiphene, cyclofenil, fulvestrant.**

S5. DIURETICS AND OTHER MASKING AGENTS

Masking agents include but are not limited to:

Diuretics* , epitestosterone, probenecid, alpha-reductase inhibitors (e.g. finasteride, dutasteride), plasma expanders (e.g. albumin, dextran, hydroxyethyl starch).

Diuretics include:

acetazolamide, amiloride, bumetanide, canrenone, chlorthalidone, etacrynic acid, furosemide, indapamide, metolazone, spironolactone, thiazides (e.g. bendroflumethiazide, chlorothiazide, hydrochlorothiazide), triamterene, and other substances with a similar chemical structure or similar biological effect(s) (except for drosperinone, which is not prohibited).

* A Therapeutic Use Exemption is not valid if an *Athlete's* urine contains a diuretic in association with threshold or sub-threshold levels of a *Prohibited Substance(s)*.

PROHIBITED METHODS

M1. ENHANCEMENT OF OXYGEN TRANSFER

The following are prohibited:

- a. Blood doping, including the use of autologous, homologous or heterologous blood or red blood cell products of any origin.
- b. 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, microencapsulated haemoglobin products).

M2. CHEMICAL AND PHYSICAL MANIPULATION

- a. *Tampering*, or attempting to tamper, in order to alter the integrity and validity of *Samples* collected during *Doping Controls* is prohibited. These include but are not limited to catheterisation, urine substitution and/or alteration.
- b. Intravenous infusions are prohibited, except as a legitimate acute medical treatment.

M3. GENE DOPING

The non-therapeutic use of cells, genes, genetic elements, or of the modulation of gene expression, having the capacity to enhance athletic performance, is prohibited.

SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

In addition to the categories S1 to S5 and M1 to M3 defined above,
the following categories are prohibited in competition:

PROHIBITED SUBSTANCES

S6. STIMULANTS

The following stimulants are prohibited, including both their optical (D- and L-) isomers where relevant:

Adrafinil, adrenaline^{*}, amfepramone, amiphenazole, amphetamine, amphetaminil, benzphetamine, bromantan, carphedon, cathine^{}, clobenzorex, cocaine, cropropamide, crotetamide, cyclazodone, dimethylamphetamine, ephedrine^{***}, etamivan, etilamphetamine, etilefrine, famprofazone, fenbutrazate, fencamfamin, fencamine, fenetylline, fenfluramine, fenproporex, furfenorex, heptaminol, isometheptene, levmethamfetamine, meclofenoxate, mefenorex, mephentermine, mesocarb, methamphetamine (D-), methylenedioxyamphetamine, methylenedioxymethamphetamine, p-methylamphetamine, methylephedrine^{***}, methylphenidate, modafinil, nikethamide, norfenefrine, norfenfluramine, octopamine, ortetamine, oxilofrine, parahydroxyamphetamine, pemoline, pentetrazol, phendimetrazine, phenmetrazine, phenpromethamine, phentermine, prolintane, propylhexedrine, selegiline, sibutramine, strychnine** and other substances with a similar chemical structure or similar biological effect(s)^{****}.

* Adrenaline associated with local anaesthetic agents or by local administration (e.g. nasal, ophthalmologic) is not prohibited.

** **Cathine** is prohibited when its concentration in urine is greater than 5 micrograms per milliliter.

*** Each of **ephedrine** and **methylephedrine** is prohibited when its concentration in urine is greater than 10 micrograms per milliliter.

**** The following substances included in the 2006 Monitoring Program (bupropion, caffeine, phenylephrine, phenylpropanolamine, pipradol, pseudoephedrine, synephrine) are not considered as *Prohibited Substances*.

S7. NARCOTICS

The following narcotics are prohibited:

buprenorphine, dextromoramide, diamorphine (heroin), fentanyl and its derivatives, hydromorphone, methadone, morphine, oxycodone, oxymorphone, pentazocine, pethidine.

S8. CANNABINOIDS

Cannabinoids (e.g. hashish, marijuana) are prohibited.

S9. GLUCOCORTICOSTEROIDS

All glucocorticosteroids are prohibited when administered orally, rectally, intravenously or intramuscularly. Their use requires a Therapeutic Use Exemption approval.

Except as indicated below, other routes of administration require an abbreviated Therapeutic Use Exemption.

Topical preparations when used for dermatological, aural/otic, nasal, buccal cavity and ophthalmologic disorders are not prohibited and do not require any form of Therapeutic Use Exemption.

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P1. ALCOHOL

Alcohol (ethanol) is prohibited *in-competition* only, in the following sports. Detection will be conducted by analysis of breath and/or blood. The doping violation threshold for each Federation is reported in parenthesis.

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|----------------------------|------------|------------------------------------|------------|
| • Aeronautic (FAI) | (0.20 g/L) | • Karate (WKF) | (0.10 g/L) |
| • Archery (FITA, IPC) | (0.10 g/L) | • Modern Pentathlon (UIPM) | (0.10 g/L) |
| • Automobile (FIA) | (0.10 g/L) | for disciplines involving shooting | |
| • Billiards (WCBS) | (0.20 g/L) | • Motorcycling (FIM) | (0.10 g/L) |
| • Boules (CMSB, IPC bowls) | (0.10 g/L) | • Powerboating (UIM) | (0.30 g/L) |

P2. BETA-BLOCKERS

Unless otherwise specified, beta-blockers are prohibited *in-competition* only, in the following sports.

- | | |
|--|---|
| • Aeronautic (FAI) | • Modern Pentathlon (UIPM) for disciplines involving shooting |
| • Archery (FITA, IPC) (also prohibited <i>out-of-competition</i>) | • Nine-pin bowling (FIQ) |
| • Automobile (FIA) | • Sailing (ISAF) for match race helms only |
| • Billiards (WCBS) | • Shooting (ISSF, IPC) (also prohibited <i>out-of-competition</i>) |
| • Bobsleigh (FIBT) | • Skiing/Snowboarding (FIS) in ski jumping, freestyle aerials/halfpipe and snowboard halfpipe/big air |
| • Boules (CMSB, IPC bowls) | • Wrestling (FILA) |
| • Bridge (FMB) | |
| • Chess (FIDE) | |
| • Curling (WCF) | |
| • Gymnastics (FIG) | |
| • Motorcycling (FIM) | |

Beta-blockers include, but are not limited to, the following:

acebutolol, alprenolol, atenolol, betaxolol, bisoprolol, bunolol, carteolol, carvedilol, celiprolol, esmolol, labetalol, levobunolol, metipranolol, metoprolol, nadolol, oxprenolol, pindolol, propranolol, sotalol, timolol.

SPECIFIED SUBSTANCES*

"Specified Substances"* are listed below:

- All inhaled Beta-2 Agonists, except clenbuterol;
- Probenecid;
- Cathine, cropropamide, crotetamide, ephedrine, etamivan, famprofazone, heptaminol, isometheptene, levmethamphetamine, meclofenoxate, p-methylamphetamine, methylephedrine, nikethamide, norfenefrine, octopamine, ortetamine, oxilofrine, phenpromethamine, propylhexedrine, selegiline, sibutramine;
- Cannabinoids;
- All Glucocorticosteroids;
- Alcohol;
- All Beta Blockers.

** "The Prohibited List may identify specified substances which are particularly susceptible to unintentional anti-doping rule violations because of their general availability in medicinal products or which are less likely to be successfully abused as doping agents." A doping violation involving such substances may result in a reduced sanction provided that the "...Athlete can establish that the Use of such a specified substance was not intended to enhance sport performance..."*



WADA Prohibited List, 2006

Summary of Major Modifications

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

S1. ANABOLIC STEROIDS

The nomenclature of the substances on this list of examples is standardized as follows:

- For substances that have been given an International Non-proprietary Name (INN), only this name appears.
- Only when the commonly-used name of a substance is better known than the INN, this commonly-used name appears in parenthesis.
- When the INN is not known, the commonly-used name appears, accompanied by the International Union of Pure and Applied Chemistry (IUPAC) nomenclature in parenthesis.

1.a. Exogenous Anabolic Steroids

- Desoxymethyltestosterone (designer steroid), methasterone, prostanazol and methyl-1-testosterone are added to the list of examples.

1.b. Endogenous Anabolic Steroids

- The explanatory note in Section 1b: "Endogenous AAS" has been reworded and expanded in order to further clarify the procedures and/or tests to follow when an Adverse Analytical Finding is reported for this category of anabolic androgenic steroids or for a T/E ratio.
- An explanatory paragraph previously included in the Explanatory Note of the 2005 Prohibited List is added to clarify the procedures for the follow-up tests after reporting an Adverse Analytical Finding of a very low concentration of boldenone.
- It is also specified, as described in the Explanatory Note of the 2005 List, that an Adverse Analytical Finding for 19-norandrosterone

reported by a laboratory is sufficient proof and does not require further follow-up tests.

Other Anabolic Agents:

- Tibolone, a synthetic steroid with anabolic properties used to treat post-menopausal symptoms, is added to the list of examples.

S.2 HORMONES AND RELATED SUBSTANCES

- The status of both human chorionic gonadotrophin (hCG) and luteinizing hormone (LH) is changed and both substances are now only prohibited in males. Despite the scientific rationale to prohibit these substances in women, the experience during 2005 has led, in some cases, to detect elevated hCG levels due to physiological (pregnancy) or pathological conditions with potentially significant psychological or social consequences for the athlete, in addition to the difficulty, to date, to discriminate at the laboratory level these cases from doping abuse.
- A paragraph reinforcing the detection of exogenous substances by a reliable method is added for consistency with that of endogenous anabolic steroids in Section 1b.
- "s" is added to "factor" in "insulin-like growth factor" since there is more than one.

S.3 BETA-2 AGONISTS

- The sentence "*Their use requires a Therapeutic Use Exemption*" in the first paragraph is deleted as it applies to all substances on the List and was deemed redundant with subsequent wording.
- The mention of restricted diagnosis to use of beta-2-agonists by inhalation is deleted in order to be consistent with Section 8 of the Therapeutic Use Exemption Standard and as it is preferred to leave to the professional judgment of the physician the medical conditions under which these drugs have to be prescribed.
- The last paragraph of this section is slightly reworded to stress that a concentration of salbutamol greater than 1000 ng/mL is considered an adverse analytical finding regardless of the granting of any form of Therapeutic Use Exemption.

S.5 DIURETICS

- The sentence "*Diuretics and other masking agents are prohibited*" is removed as it was deemed redundant with the rest of the paragraph.
- It is clarified that drospirenone, a progestative with mild diuretic properties, is not prohibited (as indicated in the Explanatory Note of the 2005 Prohibited List).

M1. ENHANCEMENT OF OXYGEN TRANSFER

- "*...other than for medical treatment*" is removed from the end of paragraph "a" as it is deemed unnecessary and ambiguous.

M2. CHEMICAL AND PHYSICAL MANIPULATION

- The section is divided into 2 separate subcategories to avoid confusion between tampering methods used during sample collection and intravenous infusions.

SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

S.6 STIMULANTS

- Adrenaline, which previously was exemplified in a footnote only, is now clearly named in the list of stimulants.
- Some stimulants considered prohibited but not previously listed as examples in the 2004 and 2005 List, are re-introduced to the list of examples for clarification. Therefore cropropamide, crotetamide, etamivan, heptaminol, isometheptene, and the isomers of methylamphetamine (levmethamphetamine, methamphetamine (D-), p-methylamphetamine, ortetamine, phenpromethamine, propylhexedrine) are re-introduced as examples.
- New examples of stimulants are added based on chemical structure or biological effect(s): cyclazodone, fenbutrazate, meclofenoxate, norfenefrine, octopamine, oxilofrine, pentetrazol, sibutramine.
- Please note that a number of new stimulants added to the section are also specified substances as indicated in the corresponding section.

S9. GLUCOCORTICOSTEROIDS

- Topical preparations, to treat aural/otic, nasal, buccal cavity and ophthalmic ailments, no longer require a Therapeutic Use Exemption

due to a wide medical use and the absence of doping potential for these routes of administration.

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P1. ALCOHOL

- FIS requested to be removed from the list of International Federations testing for alcohol.
- Powerboating (UIM) is added with a threshold at 0.30g/L.
- International Paralympic Committee (IPC) is added for Archery and Boules (bowls).
- FIM requested to change the threshold level from 0.00 g/L to 0.10 g/L.

P2. BETA BLOCKERS

- FINA requested to have prohibition lifted.
- IPC is added for Archery, Shooting and Boules (bowls).
- The list of different categories of FIS disciplines where beta-blockers are prohibited is expanded.

SPECIFIED SUBSTANCES

The following stimulants from section S6 are added: cathine, cropropamide, crotetamide, etamivan, famprofazone, heptaminol, isometheptene, meclofenoxate, p-methylamphetamine, nikethamide, norfenefrine, octopamine, ortetamine, oxilofrine, phenpromethamine, propylhexedrine, selegiline and sibutramine.

MONITORING PROGRAM

The following stimulants from Section S6 will be monitored out-of-competition: adrafinil, adrenaline, amfepramone, amiphenazole, amphetamine, amphetaminil, benzphetamine, bromantan, carphedon, clobenzorex, cocaine, cyclazodone, dimethylamphetamine, etilamphetamine, etilefrine, fenbutrazate, fencamfamin, fencamine, fenetylline, fenfluramine, fenproporex, furfenorex, mefenorex, mephentermine, mesocarb, methamphetamine (D-), methylenedioxyamphetamine, methylenedioxymethamphetamine, methylphenidate, modafinil, norfenfluramine, parahydroxyamphetamine, pemoline, pentetrazol, phendimetrazine, phenmetrazine, phentermine, prolintane, strychnine.

The monitoring program for in-competition substances will remain as in 2005, with the recommendation to extend the number of laboratories

participating in this program in order to better monitor some trends observed for some substances.