



**INTERNATIONAL CONVENTION AGAINST DOPING IN SPORT**

**Annex I - Prohibited List - International Standard**

Paris, 1 January 2011

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# THE 2011 PROHIBITED LIST

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## WORLD ANTI-DOPING CODE

Valid 1 January 2011

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All *Prohibited Substances* shall be considered as "*Specified Substances*" except Substances in classes S1, S2.1 to S2.5, S4.4 and S6(a) and *Prohibited Methods* M1, M2 and M3.

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

#### PROHIBITED SUBSTANCES

##### S0. NON-APPROVED 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 (i.e. drugs under pre-clinical or clinical development or discontinued) is prohibited at all times.

##### S1. ANABOLIC AGENTS

Anabolic agents are prohibited.

##### S1.1 Anabolic Androgenic Steroids (AAS)

(a) Exogenous\* AAS, including:

**1-androstenediol** (5 $\alpha$ -androst-1-ene-3 $\beta$ ,17 $\beta$ -diol), **1-androstenedione** (5 $\alpha$ -androst-1-ene-3,17-dione), **bolandiol** (19-norandrostenediol), **bolasterone**, **boldenone**, **boldione** (androsta-1,4-diene-3,17-dione), **calusterone**, **clostebol**, **danazol** (17 $\alpha$ -ethynyl-17 $\beta$ -hydroxyandrost-4-eno[2,3-d]isoxazole), **dehydrochloromethyltestosterone** (4-chloro-17 $\beta$ -hydroxy-17 $\alpha$ -methylandrosta-1,4-dien-3-one), **desoxymethyltestosterone** (17 $\alpha$ -methyl-5 $\alpha$ -androst-2-en-17 $\beta$ -ol), **drostanolone**, **ethylestrenol** (19-nor-17 $\alpha$ -pregn-4-en-17-ol); **fluoxymesterone**, **formebolone**, **furazabol** (17 $\beta$ -hydroxy-17 $\alpha$ -methyl-5 $\alpha$ -androstando[2,3-c]-furazan), **gestrinone**, **4-hydroxytestosterone** (4,17 $\beta$ -dihydroxyandrost-4-en-3-one), **mestanolone**, **mesterolone**, **metenolone**, **methandienone** (17 $\beta$ -hydroxy-17 $\alpha$ -methylandrosta-1,4-dien-3-one), **methandriol**, **methasterone** (2 $\alpha$ , 17 $\alpha$ -dimethyl-5 $\alpha$ -androstane-3-one-17 $\beta$ -ol), **methyldienolone** (17 $\beta$ -hydroxy-17 $\alpha$ -methylestra-4,9-dien-3-one), **methyl-1-testosterone** (17 $\beta$ -hydroxy-17 $\alpha$ -methyl-5 $\alpha$ -androst-1-en-3-one), **methylnortestosterone** (17 $\beta$ -hydroxy-17 $\alpha$ -methylestr-4-en-3-one), **methyltestosterone**, **metribolone** (methyltrienolone 17 $\beta$ -hydroxy-17 $\alpha$ -methylestra-4,9,11-trien-3-one), **mibolerone**, **nandrolone**, **19-norandrostenedione** (estr-4-ene-3,17-dione), **norboletone**, **norclostebol**, **norethandrolone**, **oxabolone**, **oxandrolone**, **oxymesterone**, **oxymetholone**,

**prostanazol** (17 $\beta$ -hydroxy-5 $\alpha$ -androstando [3,2-c]pyrazole), **quinbolone**, **stanozolol**, **stenbolone**, **1-testosterone** (17 $\beta$ -hydroxy-5 $\alpha$ -androst-1-en-3-one), **tetrahydrogestrinone** (18 $\alpha$ -homo-pregna-4,9,11-trien-17 $\beta$ -ol-3-one), **trenbolone**, and other substances with a similar chemical structure or similar biological effect(s).

(b) Endogenous\*\* AAS when administered exogenously:

**Androstenediol** (androst-5-ene-3 $\beta$ ,17 $\beta$ -diol), **androstenedione** (androst-4-ene-3,17-dione), **dihydrotestosterone** (17 $\beta$ -hydroxy-5 $\alpha$ -androstan-3-one), **prasterone** (dehydroepiandrosterone, DHEA), **testosterone**,

and the following metabolites and isomers:

**5 $\alpha$ -androstande-3 $\alpha$ ,17 $\alpha$ -diol**, **5 $\alpha$ -androstande-3 $\alpha$ ,17 $\beta$ -diol**, **5 $\alpha$ -androstande-3 $\beta$ ,17 $\alpha$ -diol**, **5 $\alpha$ -androstande-3 $\beta$ ,17 $\beta$ -diol**; **androst-4-ene-3 $\alpha$ ,17 $\alpha$ -diol**, **androst-4-ene-3 $\alpha$ ,17 $\beta$ -diol**, **androst-4-ene-3 $\beta$ ,17 $\alpha$ -diol**, **androst-4-ene-3 $\beta$ ,17 $\beta$ -diol**; **androst-5-ene-3 $\alpha$ ,17 $\alpha$ -diol**; **androst-5-ene-3 $\alpha$ ,17 $\beta$ -diol**, **androst-5-ene-3 $\beta$ ,17 $\alpha$ -diol**, **4-androstenediol** (androst-4-ene-3 $\beta$ ,17 $\beta$ -diol), **5-androstenedione** (androst-5-ene-3,17-dione), **epi-dihydrotestosterone**, **epitestosterone**, **3 $\alpha$ -hydroxy-5 $\alpha$ -androstan-17-one**, **3 $\beta$ -hydroxy-5 $\alpha$ -androstan-17-one**, **19-norandrosterone**, **19-noretiocholanolone**.

*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.

### S1.2. Other Anabolic Agents, including but not limited to:

**Clenbuterol**, selective androgen receptor modulators (SARMs), **tibolone**, **zeranol**, **zilpaterol**.

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

The following substances and their releasing factors are prohibited:

1. **Erythropoiesis-Stimulating Agents** [e.g. **erythropoietin (EPO)**, **darbepoetin (dEPO)**, hypoxia-inducible factor (HIF) stabilizers, **methoxy polyethylene glycol-epoetin beta (CERA)**, peginesatide (Hematide)];
2. **Chorionic Gonadotrophin (CG)** and **Luteinizing Hormone (LH)** in males;
3. **Insulins**;
4. **Corticotrophins**;
5. **Growth Hormone (GH)**, **Insulin-like Growth Factor-1 (IGF-1)**, Fibroblast Growth Factors (FGFs), Hepatocyte Growth Factor (HGF), **Mechano Growth Factors (MGFs)**, **Platelet-Derived Growth Factor**

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(PDGF), ~~Vascular-Endothelial Growth Factor (VEGF)~~, as well as any other growth factor affecting muscle, tendon or ligament protein synthesis/degradation, vascularisation, energy utilization, regenerative capacity or fibre type switching;

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

**Deleted:** <#>Platelet-derived preparations (e.g. Platelet Rich Plasma, "blood spinning") administered by intramuscular route. Other routes of administration require a declaration of *Use* in accordance with the International Standard for Therapeutic Use Exemptions.¶

### S3. BETA-2 AGONISTS

All beta-2 agonists (including both optical isomers where relevant) are prohibited except salbutamol (maximum 1600 micrograms over 24 hours) and salmeterol when taken by inhalation in accordance with the manufacturers' recommended therapeutic regime.

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The presence of salbutamol in urine in excess of 1000 ng/mL is presumed not to be an intended therapeutic use of the substance and will be considered as an *Adverse Analytical Finding* unless the *Athlete* proves, through a controlled pharmacokinetic study, that the abnormal result was the consequence of the use of a therapeutic dose (maximum 1600 micrograms over 24 hours) of inhaled salbutamol.

### S4. HORMONE ANTAGONISTS AND MODULATORS

The following classes are prohibited:

1. **Aromatase inhibitors** including, but not limited to: **aminoglutethimide, anastrozole, androsta-1,4,6-triene-3,17-dione (androstatrienedione), 4-androstene-3,6,17 trione (6-oxo), exemestane, formestane, letrozole, 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;**
4. **Agents modifying myostatin function(s)** including but not limited to: **myostatin inhibitors.**

### S5. DIURETICS AND OTHER MASKING AGENTS

Masking agents are prohibited. They include:

**Diuretics, desmopressin, plasma expanders** (e.g. **glycerol**, intravenous administration of **albumin, dextran, hydroxyethyl starch** and **mannitol**), **probenecid**, and other substances with similar biological effect(s).

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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 drosperinone, pamabrom and topical dorzolamide and brinzolamide which are not prohibited).

The use In- and Out-of-Competition, as applicable, of any quantity of a substance subject to threshold limits (i.e. salbutamol, morphine, cathine, ephedrine, methylephedrine and pseudoephedrine) in conjunction with a diuretic or other masking agent requires the deliverance of a specific Therapeutic Use Exemption for that substance in addition to the one granted for the diuretic or other masking agent.

**Deleted:** A Therapeutic Use Exemption for diuretics and masking agents is not valid if an *Athlete's* urine contains such substance(s) in association with threshold or sub-threshold levels of an exogenous *Prohibited Substance(s)*.¶

## PROHIBITED METHODS

### M1. ENHANCEMENT OF OXYGEN TRANSFER

The following are prohibited:

1. Blood doping, including the use of autologous, homologous or heterologous blood or red blood cell products of any origin;
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, microencapsulated haemoglobin products), excluding supplemental oxygen.

### M2. CHEMICAL AND PHYSICAL MANIPULATION

The following is prohibited:

1. *Tampering*, or attempting to tamper, in order to alter the integrity and validity of *Samples* collected during *Doping Control* is prohibited. These include but are not limited to catheterization, urine substitution and/or adulteration (e.g. proteases).
2. Intravenous infusions are prohibited except for those legitimately received in the course of hospital admissions or clinical investigations.
3. Sequential withdrawal, manipulation and reinfusion of whole blood into the circulatory system is prohibited.

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### M3. GENE DOPING

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

1. The transfer of nucleic acids or nucleic acid sequences;
2. The use of normal or genetically modified cells;
3. The use of agents that directly or indirectly affect functions known to influence performance by altering gene expression. For example, Peroxisome Proliferator Activated Receptor  $\delta$  (PPAR $\delta$ ) agonists (e.g. GW 1516) and PPAR $\delta$ -AMP-activated protein kinase (AMPK) axis agonists (e.g. AICAR) are prohibited.

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**Deleted:** biological agents that alter gene expression

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## SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

In addition to the categories S0 to S5 and M1 to M3 defined above, the following categories are prohibited In-Competition:

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### PROHIBITED SUBSTANCES

#### S6. STIMULANTS

All stimulants (including both optical isomers where relevant) are prohibited, except imidazole derivatives for topical use and those stimulants included in the 2011 Monitoring Program.\*

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Stimulants include:

(a) Non-Specified Stimulants:

Adrafinil, amfepramone, amiphenazole, amphetamine, amphetaminil, benfluorex, benzphetamine, benzylpiperazine, bromantan, clobenzorex, cocaine, cropropamide, crotetamide, dimethylamphetamine, etilamphetamine, famprofazone, fencamine, fenetylline, fenfluramine, fenproporex, furfenorex, mefenorex, mephentermine, mesocarb, methamphetamine(d-), p-methylamphetamine, methylenedioxyamphetamine, methylenedioxymethamphetamine, modafinil, norfenfluramine, phendimetrazine, phenmetrazine, phentermine, 4-phenylpiracetam (carphedon), prenylamine, prolintane.

Deleted: methylhexaneamine (dimethylpentylamine),

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

(b) Specified Stimulants (examples):

Adrenaline \*\*, cathine \*\*\*, ephedrine \*\*\*\*, etamivan, etilefrine, fenbutrazate, fencamfamin, heptaminol, isometheptene, levmetamfetamine, meclofenoxate, methylephedrine \*\*\*\*, methylhexaneamine (dimethylpentylamine), methylphenidate, nikethamide, norfenefrine, octopamine, oxilofrine, parahydroxyamphetamine, pemoline, pentetrazol, phenpromethamine, propylhexedrine, pseudoephedrine \*\*\*\*\*, selegiline, sibutramine, strychnine, tuaminoheptane, and other substances with a similar chemical structure or similar biological effect(s).

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\* The following substances included in the 2011 Monitoring Program (bupropion, caffeine, phenylephrine, phenylpropanolamine, pipradol, synephrine) are not considered as *Prohibited Substances*

\*\* **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.

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\*\*\*\*\* **Pseudoephedrine** is prohibited when its concentration in urine is greater than 150 micrograms per milliliter.

## S7. NARCOTICS

The following are prohibited:

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

## S8. CANNABINOIDS

Natural (e.g. cannabis, hashish, marijuana) or synthetic delta 9-tetrahydrocannabinol (THC) and cannabimimetics [e.g. "Spice" (containing JWH018, JWH073), HU-210] are prohibited.

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**Deleted:** THC-like cannabinoids (e.g. hashish, marijuana,

## S9. GLUCOCORTICOSTEROIDS

All glucocorticosteroids are prohibited when administered by oral, intravenous, intramuscular or rectal routes.

In accordance with the International Standard for Therapeutic Use Exemptions, a declaration of *Use* must be completed by the *Athlete* for glucocorticosteroids administered by intraarticular, periarticular, peritendinous, epidural, intradermal and inhalation routes, except as noted below.

Topical preparations when used for auricular, buccal, dermatological (including iontophoresis/phonophoresis), gingival, nasal, ophthalmic and perianal disorders are not prohibited and require neither a Therapeutic Use Exemption nor a declaration of *Use*.

## 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 (haematological values) is 0.10 g/L.

- Aeronautic (FAI)
- Archery (FITA)
- Automobile (FIA)
- Karate (WKF)
- Motorcycling (FIM)
- Ninepin and Tenpin Bowling (FIQ)
- Powerboating (UIM)

**Deleted:** <#>Modern Pentathlon (UIPM) for disciplines involving shooting†

### P2. BETA-BLOCKERS

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

- Aeronautic (FAI)
- Archery (FITA) (also prohibited *Out-of-Competition*)
- Automobile (FIA)
- Billiards and Snooker (WCBS)
- Bobsleigh and Skeleton (FIBT)
- Boules (CMSB)
- Bridge (FMB)
- Curling (WCF)
- Darts (WDF)
- Golf (IGF)
- Motorcycling (FIM)
- Modern Pentathlon (UIPM) for disciplines involving shooting
- Ninepin and Tenpin bowling (FIQ)
- Powerboating (UIM)
- Sailing (ISAF) for match race helms only
- Shooting (ISSF, IPC) (also prohibited *Out-of-Competition*)
- Skiing/Snowboarding (FIS) in ski jumping, freestyle aerials/halfpipe and snowboard halfpipe/big air
- Wrestling (FILA)

**Deleted:** <#>Gymnastics (FIG)†

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.**