WORLD ANTI-DOPING AGENCY

The World Anti-Doping Code

THE 2013 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 2013-

The 2013 Prohibited List
10 September 2012

THE 2013 PROHIBITED LIST
WORLD ANTI-DOPING CODE

Valid 1 January 2013

In accordance with Article 4.2.2 of the World Anti-Doping Code, all *Prohibited Substances* shall be considered as "Specified Substances" except Substances in classes S1, S2, S4.4, S4.5, 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 (e.g drugs under pre-clinical or clinical development or discontinued, designer drugs, substances approved only for veterinary use) is prohibited at all times.

S1. ANABOLIC AGENTS

Anabolic agents are prohibited.

1. Anabolic Androgenic Steroids (AAS)

a. Exogenous* AAS, including:

1-androstenediol (5α-androst-1-ene-3β,17β-diol)**; 1-androstenedione** (5α-androst-1-ene-3,17-dione)**; bolandiol** (estr-4-ene-3β,17β-diol)**; 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)**; drostanolone; 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; 4-hydroxytestosterone** (4,17β-dihydroxyandrost-4-en-3-one)**; mestanolone; mesterolone; metenolone; methandienone** (17β-hydroxy-17α-methylandrosta-1,4-dien-3-one)**; methandriol; methasterone** (17β-hydroxy-2α,17α-dimethyl-5α-androstan-3-one)**; methyldienolone** (17β-hydroxy-17α-methylestra-4,9-dien-3-one)**; methyl-1-testosterone** (17β-hydroxy-17α-methyl-5α-androst-1-en-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-norandrostenedione** (estr-4-ene-3,17-dione)**; norboletone; norclostebol; norethandrolone; oxabolone; oxandrolone; oxymesterone; oxymetholone; prostanozol** (17β-[(tetrahydropyran-2-yl)oxy]-1'H-pyrazolo[3,4:2,3]-5α-androstane); **quinbolone; stanozolol; stenbolone; 1-testosterone** (17β-hydroxy-5α-androst-1-en-3-one)**; tetrahydrogestrinone** (17-hydroxy-18a-homo-19-nor-17α-pregna-4,9,11-trien-3-one)**; trenbolone** (17β-hydroxyestr-4,9,11-trien-3-one)**;** and other substances with a similar chemical structure or similar biological effect(s).

b. Endogenous** AAS when administered exogenously:

androstenediol (androst-5-ene-3β,17β-diol)**; androstenedione** (androst-4-ene-3,17-dione)**; dihydrotestosterone** (17β-hydroxy-5α-androstan-3-one)**; prasterone** (dehydroepiandrosterone, DHEA, 3β-hydroxyandrost-5-en-17-one)**; testosterone;**
and their metabolites and isomers, including but not limited to:

5α-androstane-3α,17α-diol; 5α-androstane-3α,17β-diol; 5α-androstane-3β,17α-diol; 5α-androstane-3β,17β-diol; androst-4-ene-3α,17α-diol; androst-4-ene-3α,17β-diol; androst-4-ene-3β,17α-diol; androst-5-ene-3α,17α-diol; androst-5-ene-3α,17β-diol; androst-5-ene-3β,17α-diol; 4-androstenediol (androst-4-ene-3β,17β-diol)**; 5-androstenedione** (androst-5-ene-3,17-dione)**; epi-dihydrotestosterone; epitestosterone; etiocholanolone; 3α-hydroxy-5α-androstan-17-one; 3β-hydroxy-5α-androstan-17-one; 7α-hydroxy-DHEA ; 7β-hydroxy-DHEA ; 7-keto-DHEA; 19-norandrosterone; 19-noretiocholanolone.**

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

Clenbuterol, selective androgen receptor modulators (SARMs), 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. 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. **Corticotrophins;**

4. **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 (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;

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

S3. BETA-2 AGONISTS

All beta-2 agonists, including all optical isomers (e.g. *d*- and *l*-) where relevant, are prohibited except inhaled salbutamol (maximum 1600 micrograms over 24 hours), inhaled formoterol (maximum delivered dose 54 micrograms over 24 hours) and salmeterol when taken by inhalation in accordance with the manufacturers' recommended therapeutic regimen.

The presence in urine of salbutamol in excess of 1000 ng/mL or formoterol in excess of 40 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 the therapeutic inhaled dose up to the maximum indicated above.

S4. HORMONE AND METABOLIC MODULATORS

The following 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.**

5. **Metabolic modulators:**
   a) Insulins
   b) Peroxisome Proliferator Activated Receptor δ (PPARδ) agonists (e.g. GW 1516), PPARδ-AMP-activated protein kinase (AMPK) axis agonists (e.g. AICAR)

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).
Local administration of felypressin in dental anaesthesia is not prohibited.

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

The use *In-* and O*ut-of-Competition,* as applicable, of any quantity of a substance subject to threshold limits (i.e. formoterol, salbutamol, 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.

PROHIBITED METHODS

M1. MANIPULATION OF BLOOD AND BLOOD COMPONENTS

The following are prohibited:

1. The administration or reintroduction of any quantity of autologous, 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, microencapsulated haemoglobin products), excluding supplemental oxygen.

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, in order to alter the integrity and validity of *Samples* collected during *Doping Control*. These include but are not limited to urine substitution and/or adulteration (e.g. proteases).

2. Intravenous infusions and/or injections of more than 50 mL per 6 hour period except for those legitimately received in the course of hospital admissions or clinical investigations.

M3. GENE DOPING

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

1. The transfer of polymers of nucleic acids or nucleic acid analogues;

2. The use of normal or genetically modified cells.

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*:

PROHIBITED SUBSTANCES

S6. STIMULANTS

All stimulants, including all optical isomers (e.g. *d*- and *l*-) where relevant, are prohibited, except imidazole derivatives for topical use and those stimulants included in the 2013 Monitoring Program[*].

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. 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 (methylsynephrine); parahydroxyamphetamine; pemoline; pentetrazol; phenpromethamine; propylhexedrine; pseudoephedrine[*****]; selegiline; sibutramine; strychnine; tuaminoheptane; and other substances with a similar chemical structure or similar biological effect(s).

[*] The following substances included in the 2013 Monitoring Program (bupropion, caffeine, nicotine, phenylephrine, phenylpropanolamine, pipradol, synephrine) are not considered as *Prohibited Substances*.
[**] Local administration (e.g. nasal, ophthalmologic) of **Adrenaline** or co-administration with local anaesthetic agents 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.
[*****] **Pseudoephedrine** is prohibited when its concentration in urine is greater than 150 micrograms per milliliter.

S7. NARCOTICS

The following are prohibited:

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”, JWH018, JWH073, HU-210) are prohibited.

S9. GLUCOCORTICOSTEROIDS

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

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)
- Powerboating (UIM)

P2. BETA-BLOCKERS

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

- Archery (FITA) (also prohibited *Out-of-Competition*)
- Automobile (FIA)
- Billiards (all disciplines) (WCBS)
- Darts (WDF)
- Golf (IGF)
- Shooting (ISSF, IPC) (also prohibited *Out-of-Competition*)
- Skiing/Snowboarding (FIS) in ski jumping, freestyle aerials/halfpipe and snowboard halfpipe/big air

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.

10 September 2012

WORLD ANTI-DOPING AGENCY

2013 Prohibited List

Summary of Major Modifications and Explanatory Notes

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

PROHIBITED SUBSTANCES

S0: Non-Approved Substances

- It is clarified that veterinary products only refer to substances not approved for human use.

S1. Anabolic Agents

- The IUPAC names have been reviewed with the assistance of IUPAC and the appropriate changes have been introduced for the following substances :
    - danazol ([1,2]oxazolo[4',5':2,3]pregna-4-en-20-yn-17α-ol)
    - ethylestrenol (19-norpregna-4-en-17α-ol)
    - furazabol (17α-methyl[1,2,5]oxadiazolo[3',4':2,3]-5α-androstan-17β-ol)
    - methasterone (17β-hydroxy-2α,17α-dimethyl-5α-androstan-3-one)
    - prostanozol(17β-[(tetrahydropyran-2-yl)oxy]-1'*H*-pyrazolo[3,4:2,3]-5α-androstane)
    - tetrahydrogestrinone(17-hydroxy-18a-homo-19-nor-17α-pregna-4,9,11-trien-3-one)
    - trenbolone (17β-hydroxyestr-4,9,11-trien-3-one)
    - prasterone (dehydroepiandrosterone, DHEA, 3β-hydroxyandrost-5-en-17-one).

- Etiocholanolone has been added to the S1.b section as an example of testosterone metabolite.

The INN will be used if existing; IUPAC nomenclature will also be used when necessary for further clarity; common names will be added where considered helpful.

S2. Peptide Hormones, Growth Factors and Related Substances

- Insulins have been moved to S4.5.a (Metabolic Modulators) because it is considered a more appropriate category based on their mechanism of action. Other antidiabetic drugs, including exenatide and liraglutide are not prohibited.

Platelet-derived preparations (PRP) were previously removed from the List after consideration of the lack of any current evidence concerning the use of these methods for purposes of performance enhancement notwithstanding that these preparations contain growth factors. Despite the presence of some growth factors, current studies on PRP do not demonstrate any potential for performance enhancement beyond a potential therapeutic effect. Note that individual growth factors are still prohibited when given separately as purified substances as described in S.2.5. Intravenous use of PRP is not permitted in accordance with M2.

S3. Beta2-agonists:

- The permitted delivered (inhaled) dose of formoterol has increased to 54 micrograms over 24 hours with a corresponding increase of the urinary threshold to 40 ng/mL.

- For clarity, all optical isomers (d- and l-) where relevant, are prohibited.

It should be noted that there are differences worldwide in the labelling of the formoterol content in inhalation devices, and that the List refers to the delivered dose of formoterol and not the metered dose. The delivered dose is the dose that leaves the mouthpiece and is available for inhalation. For example, a Symbicort® Turbuhaler®/Turbohaler® labelled as containing 12 micrograms of formoterol delivers to the patient ~9 micrograms per inhalation. If two inhalations twice a day (i.e. 48 micrograms) are administered, the delivered dose is 36 micrograms, which is the maximum approved daily dose in most countries. In some countries the permitted maximum delivered dose for temporary occasional use for treatment of asthma exacerbations is 54 micrograms over 24 hours.
Where formoterol is delivered via an Aerolizer® device, studies have shown that 60-85% of the dose is delivered.
WADA is continuing to evaluate other beta-2-agonists in order to establish appropriate urinary threshold levels for these products. Regardless of the dosage permitted, all athletes are encouraged to seek appropriate medical advice to ensure that they are receiving optimal treatment. For more information regarding beta-2-agonists refer to the Medical Information to Assist TUE Committees document on Asthma.

S4. Hormone and Metabolic Modulators

- Insulins are included under S4.5.a (see S2 above).

S5: Diuretics and Other masking agents

- "Local application" of felypressin is changed to "Local administration" for clarity.

- Morphine is removed from the last paragraph as it is not a substance subject to threshold limits in the List so a TUE would always be required to use *in-competition*.

PROHIBITED METHODS

M1. Manipulation of blood and blood components

- The title and the body of this section have been changed to encompass all kinds of manipulations of blood and blood components. As a consequence, M2.3 has been deleted, as it is now included in this revised category.

M2. Chemical and Physical Manipulation

- M2.3 has been deleted as it is now included in the wording of M1.

M3. Gene Doping

- To enable a more precise definition of Gene Doping, M3.1 has been reworded.

SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

S6: Stimulants:

- For clarity, it is confirmed that all optical isomers (*d*- and *l*-) where relevant, are prohibited.

As a reminder some stimulants may be available under several other names, for example "methylhexaneamine", sometimes presented as dimethylamylamine, pentylamine, geranamine, Forthane, 2- amino-4-methylhexane, geranium root extract or geranium oil.

- Another example is methylsynephrine which has been added as a different name for oxilofrine.

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P2. Beta-blockers

- Aeronautic (FAI), Boules (CMSB), Bridge (FMB), Ninepin and Tenpin Bowling (FIQ) and Powerboating (UIM) are removed from the list of sports in which beta-blockers are prohibited.

WADA continues to re-evaluate the prohibition of beta-blockers in certain sports in conjunction with the concerned federations and other stakeholders. This has led to the removal of five more sports from this section.

MONITORING PROGRAM

- In order to detect potential patterns of abuse, the following has been added to the Monitoring Program:
    - In-competition: tapentadol.