



2009 Prohibited List

Summary of Major Modifications and Clarifications

INTRODUCTORY PARAGRAPH

- Article 4.2.2 of the 2009 Code states: "For purposes of the application of Article 10 (Sanctions on Individuals) all *Prohibited Substances* shall be 'Specified Substances' except substances in the classes of anabolic agents and hormones and those stimulants and hormone antagonists and modulators so identified on the *Prohibited List*. *Prohibited Methods* shall not be Specified Substances"

To reflect these changes in the Code, the following sentence has been added: "All *Prohibited Substances* shall be considered as "Specified Substances" except Substances in classes S1, S2, S4.4 and S6.a, and *Prohibited Methods* M1, M2 and M3."

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

S1. Anabolic Agents

1- Anabolic Androgenic steroids

- The nomenclature of *prostanazol* has been changed to *17 β -hydroxy-5 α -androstan[3,2-c] pyrazole* to better follow the International Union of Pure and Applied Chemistry (IUPAC) rules.
- Epitestosterone has been moved from section S5 (Diuretics and other Masking Agents) to S1 (Anabolic Agents, Endogenous Anabolic Androgenic Agents) since it is an isomer of testosterone. This way, epitestosterone will maintain its status as a non-specified substance for sanction purposes.
- The detailed explanation on the management of atypical endogenous AAS results has been converted into a comment in accordance with the format of the World Anti-Doping Code.

S2. Hormones and Related Substances

- In order to reflect the heterogeneity of new EPO-like substances in development, "Erythropoietin" has been replaced by "Erythropoiesis-Stimulating Agents".
- LH, CG clearly named as the Gonadotrophins which are prohibited in males.
- The explanatory note at the end of this section has been converted into a comment in accordance with the format of the World Anti-Doping Code.

S3. Beta-2 Agonists

- In compliance with the 2009 Code, references to Abbreviated TUEs have been removed.
- Inhaled formoterol, salbutamol, salmeterol and terbutaline require a Therapeutic Use Exemption in accordance with the new International Standard for Therapeutic Use Exemptions.
- The presence of salbutamol in urine in excess of 1000 ng/mL will be considered 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 of inhaled salbutamol. A controlled pharmacokinetic study must be conducted in a hospital environment or a reference center for the medical condition concerned, where the administered dose(s) can be rigorously monitored and the quality of the analysis documented.

S5. Diuretics and Other masking Agents

- As explained above, epitestosterone has been moved to section S1.
- Alpha reductase inhibitors are no longer prohibited. They have been rendered ineffective as masking agents by closer consideration of steroid profiles.
- The word "intravenous administration" now precedes the examples of plasma expanders albumin, dextran, hydroxyethyl starch, to reflect that these substances are only prohibited when administered by this route; mannitol has been added as an example. Mannitol by inhalation is permitted e.g. to perform bronchial provocation testing in asthma.

- It is stated that the carbonic anhydrase inhibitors dorzolamide and brinzolamide, when administered topically in the eye, are not prohibited. The rationale behind this exception is these drugs do not have a diuretic effect when topically applied.

PROHIBITED METHODS

M2. Chemical and Physical Manipulation

- Intravenous infusions are prohibited and thus require a Therapeutic Use Exemption except in the management of surgical procedures, medical emergencies or clinical investigations.

The intent of this section is to prohibit hemodilution, overhydration and the administration of prohibited substances by means of intravenous infusion. An intravenous infusion is defined as the delivery of fluids through a vein using a needle or similar device.

The legitimate medical uses of intravenous infusions that follow are not prohibited:

1. Emergency intervention including resuscitation;
2. Blood replacement as a consequence of blood loss;
3. Surgical procedures;
4. Administration of drugs and fluids when other routes of administration are not available (e.g. intractable vomiting) in accordance with good medical practice, exclusive of exercise induced dehydration.

Injections with a simple syringe are not prohibited as a method if the injected substance is not prohibited and if the volume does not exceed 50 mL.

M3. Gene Doping

- The definition of Gene Doping has been reworded in order to reflect new technologies in this field.
- Peroxisome Proliferator Activated Receptor δ and AMP-activated protein kinase axis agonists have been added based on recent scientific data.

SUBSTANCES AND METHODS PROHIBITED IN-COMPETITION

S6. Stimulants

- Based on the article 4.2.2 of the revised Code the List Committee addressed all stimulants named in the 2008 Prohibited List and categorized them as specified or non-specified. The ability to enhance performance in sports, the risk to health, general use in medicinal products, legitimate market availability, their illicit use, legal/controlled status, history and potential of abuse in sports, their metabolism into amphetamine and/or metamphetamine, the likelihood of approval for Therapeutic Use Exemptions, and their pharmacology were taken into consideration. All the non-specified stimulants are named in section S6.a, while a list of examples of specified stimulants are included in section S6.b.
- Before considering the reintroduction of pseudoephedrine it was found that more information is needed and a research project is initiated to that effect. As for now, pseudoephedrine remains in the Monitoring Program.

S9. Glucocorticosteroids

- In compliance with the 2009 Code, references to Abbreviated TUEs have been removed.
- In accordance with the International Standard for Therapeutic Use Exemptions, a declaration of use must be completed by the *Athlete* for the administration of glucocorticosteroids by intraarticular, periarticular, peritendinous, epidural, intradermal and inhalation routes.
- No TUE or declaration of use is required for topical administration of glucocorticosteroids

SUBSTANCES PROHIBITED IN PARTICULAR SPORTS

P1. Alcohol

- The doping violation threshold for blood and breath alcohol (ethanol) has been harmonized for all International Federations to 0.1 g/L.
- At the request of the Federation International de Quilleurs (FIQ), Ninepin Bowling is included. WADA List Committee also included Tenpin bowling since this discipline is also part of FIQ.

P2. Beta-blockers

- At the request of the Federation International de Quilleurs (FIQ), the spelling of Ninepin Bowling is corrected. WADA List Committee also included Tenpin bowling in this category since this discipline is also part of FIQ.
- At the request of the International Golf Federation, beta-blockers are now prohibited in golf.

SPECIFIED SUBSTANCES

- This section is deleted, as the definition of Specified Substances has changed under the revised Code. The new division between Specified and Non-specified Substances is now included in the Introductory Paragraph.

Q&A: 2009 Prohibited List

What major changes does the 2009 List of Prohibited Substances and Methods include compared to the 2008 List?

- The 2009 List includes modifications in relation to the status of specified substances in order to align the 2009 List with the more flexible sanctions, able to be imposed in cases involving “specified substances”, set forth in the revised World Anti-Doping Code (2009 Code) to come into effect on January 1, 2009.
- Alpha-reductase inhibitors, a class of masking agents which used to be banned in- and out-of-competition, were removed from the 2009 List. This class of substances, which includes for example finasteride, has been rendered ineffective as masking agents of steroids through close consideration of steroid profiles by anti-doping laboratories.

As part of the development by WADA of the Athlete Passport concept—the objective of which is to monitor an athlete’s biological parameters over time in order to detect abnormal variations that could indicate potential doping—and following research and advances in anti-doping science, WADA accredited laboratories are now able to and required to systematically and closely consider steroid profiles in urine as part of the doping control process, which allows them to circumvent the masking agent properties of alpha-reductase inhibitors.

- The 2009 List reflects the expanding scientific knowledge and understanding of doping practices and trends, as well as advances in anti-doping science and the recognition by WADA stakeholders of the importance of further harmonization of the fight against doping through the revised Code and International Standards.

Why was the composition of specified substances changed?

- Modifications were made in relation to specified substances in order to align the 2009 List with the more flexible sanctions set forth in the revised Code. The objective of this flexibility, which was approved by WADA’s stakeholders as part of their unanimous endorsement of the revised Code in 2007, is to allow for enhanced sanctions for deliberate doping offenders, and reduced sanctions for inadvertent cheaters or for athletes who can unequivocally establish that the substance involved was not intended to enhance performance.
- As a result, while all prohibited methods, the classes of anabolic agents and hormones, as well as a number of stimulants and hormone antagonists and modulators so identified on the 2009 List

maintain their status, the remainder of prohibited substances will now be considered as specified substances for the purpose of more flexible sanctions.

- This means that where athletes can clearly establish how a specified substance entered their body or came into their possession, and that such substance was not intended to enhance sport performance, the sanction may be reduced as low as a reprimand and no period of ineligibility.
- At the same time, the use of non-specified substances should be more likely to result in a standard two-year ban for a first anti-doping rule violation, or to a ban of up to four years in cases of aggravating circumstances under the revised Code. These circumstances can include, but are not limited to, being part of a large doping scheme, an athlete having used multiple prohibited substances or a prohibited substance on multiple occasions, or an athlete engaging in deceptive or obstructing conduct to avoid the detection or adjudication of an anti-doping rule violation. Aggravating circumstances also include situations in which a normal individual would be likely to benefit from the performance-enhancing effects of the anti-doping rule violation beyond the otherwise applicable period of ineligibility.
- Specified substances, as defined in the revised Code, are not necessarily less serious agents for purposes of doping than other prohibited substances. For that reason, an athlete who does not meet the reduction criteria could still receive up to a four-year period of ineligibility in case of aggravating circumstances. However, there is a greater likelihood that specified substances, as opposed to non-specified substances, could be susceptible to a credible, non-doping explanation.

How were stimulants classified as specified or non-specified?

- In order to determine which stimulants (prohibited in-competition only) should be classified as specified or non-specified in the 2009 List, the international experts serving on WADA's scientific committees carefully considered various parameters.
- These included the potential of these stimulants to enhance performance in sport, their risk to health, their general use in medicinal products, their legitimate market availability, their illicit use, their legal/controlled status in various countries, their history and potential of abuse in sport, their potential of addiction, the likelihood of approval for therapeutic use, their pharmacology, and other scientific elements, as well as the likelihood of a non-doping explanation.

- As a result of this process and of the broad consultation carried out as part of the yearly preparation of the List, stimulants identified as non-specified substances in the 2009 List (and therefore subject to a two-year sanction in the absence of aggravating or attenuating circumstances) include for example amphetamine, cocaine, bromantan and modafinil.

Why weren't substances such as caffeine, pseudoephedrine and sildenafil (Viagra) included in the 2009 List?

- Since 2004, caffeine has been included in WADA's Monitoring Program. This program includes substances which are not prohibited in sport, but which WADA monitors in order to detect patterns of misuse in sport.
- Arguments that led WADA's stakeholders to take caffeine off the List in 2004 included research indicating that caffeine is performance-decreasing above the 12 microgram/ml threshold that was historically used in sport. In addition, caffeine is metabolized at very different rates in individuals. Many experts believe that caffeine is ubiquitous in beverages and food and that reducing the threshold in order to unmask cheaters might therefore create a serious risk of sanctioning athletes for social or diet consumption of caffeine.
- With this background, and since no excessive abuse of caffeine was observed in 2008 as part of the monitoring of this substance, caffeine was kept off the 2009 List and will remain in WADA's Monitoring Program.
- Pseudoephedrine will also remain part of the Monitoring Program. International experts serving in WADA's scientific committees considered that further scientific elements need to be collected before reconsidering the status of pseudoephedrine. WADA is funding additional research on the excretion profile of this substance and continues to monitor the substance.
- As regards sildenafil (Viagra), WADA is aware of studies presented in relation to the potential of sildenafil to restore pulmonary capacities at very high altitudes. WADA is currently funding a number of research projects on the effects of sildenafil at various altitudes. These projects are ongoing.