

## Lists of prohibited substances and prohibited methods

### Annex I

#### List of doping substances and prohibited methods (*prohibited in competition*)

##### 1. Doping substances are

- Stimulants
  - o such as adrenaline, amiphenazole, amphetamine, benzyloxyethylpiperazine, bromantane, cocaine, caffeine, dopamine, dimethylamphetamine, ephedrine, heptaminol, mesocarb, methylephedrine, methylphenidate, modafinil, pemoline, pentetrazol, selegiline, strychnine
  - o and other substances with a similar chemical structure or similar biological effect(s)
- Sedatives and narcotics
  - o such as acepromazine, azaperone, buprenorphine, butorphanol, chlorpromazine, clomipramine, codeine, detomidine, diazepam, droperidol, etorphine, fentanyl and its derivatives, fluoxetine, flumazenil, flupentixol, fluphenazine, gabapentine, ketamine, levomethadone, lithium, methadone, morphine, pentazocine, pethidine, phenytoin, propofol, reserpine, romifidine, valerianic acid, xylazine, zuclopenthixol
  - o And other substances with a similar chemical structure or similar biological effect(s)
- Anabolic substances
  - o such as altrenogest (in stallions and geldings), 1-androstendiol, 1-androstendione, boldenone\*, closte-bol, danazol, dehydrochlormethyltestosterone, dihydrotestosterone, gestrinone, mestanolone, methandriol, nandrolone\*, stanozolol, testosterone\*, tetrahydrogestrinone, tibolone, trenbolons
  - o and other substances with a similar chemical structure or similar biological effect(s)
  - o as well as selective androgen receptor modifying substances (SARMS)
  - o beta 2 agonists, such as clenbuterol, isoxsuprine, salbutamol, zilpaterol
  - o and other substances with a similar chemical structure or similar biological effect(s)
- \* *These substances or associated metabolites are subject to gender-specific limits (see below)*
- Diuretics or other masking substances
  - o including plasma volume expanders (e.g. glycerol, intravenous administration of albumin, dextran, hydroxyethyl starch and mannitol) and other substances with similar biological effects.
  - o diuretics include acetazolamide, bumetanide, ethacrynic acid, furosemide, spironolactone, thiazide (e.g. chlorothiazide, hydrochlorothiazide), traimiterene
  - o as well as other substances with a similar chemical structure or similar biological effect(s).
- Peptide hormones and related substances or analogues, including, among others, the following substances and their releasing hormones
  - o erythropoiesis-stimulating agents (e.g. erythropoietin (EPO), darbEpoetin (dEPO) methoxy-polyethylenglycol-epoietin beta (CERA), peginesatide)
  - o chorion gonadotropin ((H)CG) and luteinising hormone (LH)
  - o insulin
  - o corticotropine
  - o growth hormone (GH), insulin-like growth factor-1 (IGF-1), Mechano growth factors (MGFs), platelet-derived growth factor (PDGF) and any other growth factor that influences protein synthesis or degradation, vascular supply, energy conversion, ability to regenerate or fibre adjustment of muscles, tendons or ligaments
  - o preparations derived from blood platelets (e.g. platelet-rich plasma, PRP)
- Hormone antagonists and modulators
  - o aromatase inhibitors including, among others: Aminoglutethimide, anastrozol, androsta-1,4,6-trien-3,17-dion (androstatriendione), 4-androsten-3,6,17-trion(6oxo), exemestane, formestane, letrozol, testolactone
  - o selective oestrogen receptor modifying substances (SERMS) including, among others: Raloxifene, tamoxifene, toremifene
  - o other anti-oestrogenic substances including, among others: Clomiphene,

cyclophenil, fulvestrante

- o agents that change the myostatine function(s), including, among others: Myostatine inhibitors

Thresholds apply to:

- Testosterone:
  - \* in geldings: free and conjugated testosterone at a concentration of 0.02 microgram per millilitre urine
  - \* in mares: free and conjugated testosterone at a concentration of 0.055 microgram per millilitre urine
- Estradiol:
  - in stallions: free and conjugated 5 $\alpha$ -estrane-3 $\alpha$ , 17 $\beta$ -diol: 0.045 microgram per millilitre urine
- Boldenone:
  - in stallions: free and conjugated Boldenon at a concentration of 0.015 microgram per millilitre urine
- Cortisol:
  - at a concentration as of 1.0 microgram per millilitre urine

## 2. Prohibited methods

Strengthening/increasing the oxygen exchange

1. Blood doping, including use of autologous, homologous or heterologous blood or any products containing red blood cells
2. Artificial improvement of the absorption, transport or release of oxygen, including, among others, perfluoro compounds, efaproxiral (RSR13) and modified haemoglobin products (e.g. haemoglobin-based blood replacement preparations, micro-encapsulated haemoglobin products), excluding supplementary oxygen supply

Chemical and physical manipulation

1. Influence or attempted influence to change the integrity and usability of samples
2. Intravenous infusions, unless taking place in the scope of hospital stays or hospital examinations
3. Any manipulation of any part of the body to change sensitivity. This includes, among others
  - a) Neurectomy in the limbs
  - b) Hyper- or desensibilisation by irritants a./o. rubefacients, such as mustard oils, turpentine, capsaicin and synthetic derivatives (e.g. nonivamide)
4. Tracheo tubus
5. Shock wave therapy within 5 days before participation in the competition

Gene doping

1. Transfer of cells or genetic elements (e.g. DNA, RNA, stem cell therapy)
2. Use of pharmacological or biological agents that change gene expression (e.g. GW1516)

## Annex II

List of prohibited substances – prohibited medication (*prohibited in competition*)

Prohibited substances are substances that act, may act or are supposed to act

- on the nervous system
  - o such as atropine, butylscopolamine, carbachol, etilefrine, guaifenesine, lidocaine, mepivacaine, methocarbamol, neostigmine, physostigmine, procaine, scopolamine, theophylline, yohimbine

- o and other substances with a similar chemical structure or similar biological effect(s)
- on the cardiovascular system
  - o such as atenolol, benazepril, captopril, carazolol, chinidine, clonidine, digitoxine, hordenine, propranolol, strophantine, timolol, tranexamic acid, vasopressin, verapamil
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the respiratory system
  - o such as acetylcysteine, ambroxol, aminophylline, clobutinol, bromhexine, dembexine, dextromethorphan, guajakol, ipratropium-bromide, noscapine, pentoxyverine
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the digestive system
  - o such as aloe, 5-aminosalicylic acid, cimetidine, cisapride, famotidine, lansoprazol, loperamide, metamizol, metoclopramide, misoprostol, neostigmine, olsalazine, pantoprazol, pirenzepine, polyethylenglycol, ranitidine
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the urinary system
  - o such as vasopressin
  - o substances influencing the acid-alkaline balance, such as sodium-bicarbonate\*, trometamol
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the sexual organs
  - o such as chlormadinonacetate, oxytocin, PGF2alpha, tiaprost
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the musculoskeletal system
  - o such as acetaminophen, acetylsalicylic acid, bufexamac, carprofene, dantrolene, dichloroacetate, diclofenac, dimethylsulfoxide (DMSO)\*, firocoxib, flunixin, harpagophytum procumbens (rampion), ibuprofen, indomethacin, ketoprofen, meclofenamin acid, meloxicam, naproxen, orgoteine, paracetamol, phenacetine, phenylbutazone, rofecoxib, salicylic acid\*, tepoxaline, tiludronic acid, vedaprofen
  - o and other substances with a similar chemical structure or similar biological effect(s)
- on the skin
  - o such as griseofulvine
  - o and other substances with a similar chemical structure or similar biological effect(s)
- against pathogens
  - o such as ampicillin, amoxicillin, benzyl penicillin, bencyl penicillin benzathin, cefquinom, chloramphenicol, chlortetracycline, diminazenacetate, enrofloxacin, florphenicol, gentamicin, imidocarbodipropionate, isometamidiumchloride, levamisol, phenamidinisethionate, procaine benzyl penicillin, quinapyramin sulfate, sulfadimidine, sulfamethoxypridazine, suramine, trimethoprim
  - o and other substances with a similar chemical structure or similar biological effect(s)

The following are additionally prohibited:

- Antihistamines
    - o such as cetirizine, cyproheptadine, diphenhydramine
  - Glucocorticoids
    - o such as beclomethasone, betamethasone, budesonide, cortivazol, dexamethasone, flumethasone, fluticasone, methylprednisolone, prednisolone, triamcinolone
  - Homeopathics at a dilution (succussion) less or equal to D6
  - Phytotherapeutics,
    - o such as arnica, ginger
- \* *These substances are subject to threshold values (see below).*

Thresholds apply to:

- Salicylic acid:
  - at a concentration as of 625.0 microgram per millilitre urine or 5.4 microgram per millilitre blood plasma
- Arsenic:

- at a concentration as of 0.3 microgram per millilitre urine
- Dimethylsulfoxide (DMSO):
  - at a concentration as of 15.0 microgram per millilitre urine or at a concentration as of 1.0 microgram per millilitre blood plasma
- Available CO<sub>2</sub>:
  - at a concentration as of 36 millimol per litre blood plasma
- Theobromine:
  - at a concentration as of 2.0 microgram per millilitre urine
  - at a concentration as of 0.3 microgram per millilitre plasma

### Annex III

List of doping substances prohibited in training and prohibited methods prohibited in training  
(*which are also prohibited in competition*)

#### 1. Doping substances

shall include

- Stimulants
  - o amiphenazole, amphetamine, benzylpiperazine, bromantane, cocaine, dimethylamphetamine, ephedrine, heptaminol, mesocarb, methylephedrine, methylphenidate, modafinil, pemoline, pentetrazol, selegilin, strychnine
- Sedatives and narcotics
  - o buprenorphine, clomipramine, fentanyl and its derivatives, fluoxetine, flupentixol, fluphenazine, gabapentin, lithium, pentazocine, pethidine, reserpine, valerianic acid, zuclopenthixol
- Anabolic substances
  - o such as 1-androstendiol, 1-androstendione, boldenone\*, clostebol, danazol, dehydrochlormethyltestosterone, dihydrotestosterone, gestrinone, mestanolone, methandriol, nandrolons\*, stanozolol, testosterone\*, tetrahydrogestrinone, trenbolone
  - o and other substances with a similar chemical structure and similar biological effect(s)
  - o and selective androgen receptor modifying substances (SARMS)
- \* *These substances or associated metabolites are subject to gender-specific thresholds (see below).*
- Peptide hormones and related substances or analogues, including, among others, the following substances and their releasing hormones
  - o erythropoese-stimulating agents (e.g. erythropoietin (EPO), darbEpoetin (dEPO) Methoxy polyethylene glycol-epoetin beta (CERA), Peginesatid)
  - o chorion gonadotropin ((H)CG) and luteinising hormone (LH) in male animals
  - o Insulin
  - o corticotropine
  - o growth hormone (GH), insulin-like growth factor-1 (IGF-1), Mechano growth factors (MGFs), platelet-derived growth factor (PDGF) and any other growth factor that influences protein synthesis or degradation, vascular supply, energy conversion, ability to regenerate or fibre adjustment of muscles, tendons or ligaments
  - o preparations derived from blood platelets (except for the use of platelet-rich plasma, PRP)
- Hormone antagonists and modulators
  - o aromatase inhibitors including, among others: Aminogluthetimide, anastrozol, androsta-1,4,6-trien-3,17-dion (androstatriendione), 4-androsten-3,6,17-trion(6oxo), exemestane, formestane, letrozol, testolactone
  - o selective oestrogen receptor modifying substances (SERMS) including, among others: raloxifene, tamoxifene, toremifene
  - o other anti-oestrogenic substances including, among others: clomiphene, cyclophenil, fulvestrant

- o agents that change the myostatin function(s), including, among others: Myostatin inhibitors

Thresholds apply to:

- Testosterone:  
in geldings: free and conjugated testosterone at a concentration of 0.02 microgram per millilitre urine  
in mares: free and conjugated testosterone at a concentration of 0.055 microgram per millilitre urine
- Estradiol:  
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at a concentration as of 1.0 microgram per millilitre urine

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  - a) Neurectomy in the limbs
  - b) Hyper- or desensibilisation by irritants a./o. rubefacients, such as mustard oils, turpentine, capsaicin and synthetic derivatives (e.g. nonivamide)
4. Tracheo tubus

Gene doping

1. Transfer of cells or genetic elements (e.g. DNA, RNA) (except for use of stem cells)
2. Use of pharmacological or biological agents that change gene expression

Exceptions

Use/administration of the following substances approved for horses in Germany is permitted in the time period before participation in a competition:

- Vaccines according to execution provisions on § 66.6.10
- Substances to fight endoparasites
- Paramunity inducers
- Disinfectants and insecticides
- External application of essential oils
- Oral administration of minerals, vitamins, electrolytes, hyaluronic acid, chondroitine sulfate, (sulphated) glycosaminoglycans
- Altrenogest in mares
- Omeprazol
- Antimycotics, external

The following are also permitted

- o Manual treatments (physiotherapy, osteopathy, osteotherapy) and

- o The following physical procedures:
  - ice water, chillers, not below a temperature of 0 °C,
  - magnetic blankets