

Directive 2010/63/EU of the European Parliament and of the Council of 22 September 2010 on the protection of animals used for scientific purposes (Text with EEA relevance)

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## ANNEX IV

## METHODS OF KILLING ANIMALS

1. In the process of killing animals, methods listed in the table below shall be used.

Methods other than those listed in the table may be used:

- (a) on unconscious animals, providing the animal does not regain consciousness before death;
- (b) on animals used in agricultural research, when the aim of the project requires that the animals are kept under similar conditions to those under which commercial farm animals are kept; these animals may be killed in accordance with the requirements laid down in Annex I to Council Regulation (EC) No 1099/2009 of 24 September 2009 on the protection of animals at the time of killing<sup>(1)</sup>.

2. The killing of animals shall be completed by one of the following methods:

- (a) confirmation of permanent cessation of the circulation;
- (b) destruction of the brain;
- (c) dislocation of the neck;
- (d) exsanguination; or
- (e) confirmation of the onset of *rigor mortis*.

3. Table

Animals- remarks/ methods	Fish	Amphibi- ans	Reptiles	Birds	Rodents	Rabbits	Dogs, cats, ferrets and foxes	Large mammals	Non- human primates
Anaesthesia (1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Captive bolt	×	×	(2)	×	×		×		×
Carbon dioxide	×	×	×		(3)	×	×	×	×
Cervical dislocation	×	×	×	(4)	(5)	(6)	×	×	×
Concussion/ percussive blow to the head				(7)	(8)	(9)	(10)	×	×
Decapitation	×	×	×	(11)	(12)	×	×	×	×

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Electrical stunning	(13)	(13)	X	(13)	X	(13)	(13)	(13)	X
Inert gases (Ar, N <sub>2</sub> )	X	X	X			X	X	(14)	X
Shooting with a free bullet with appropriate rifles, guns and ammunition	X	X	(15)	X	X	X	(16)	(15)	X

#### Requirements

1. Shall, where appropriate, be used with prior sedation.
2. Only to be used on large reptiles.
3. Only to be used in gradual fill. Not to be used for foetal and neonate rodents.
4. Only to be used for birds under 1 kg. Birds over 250 g shall be sedated.
5. Only to be used for rodents under 1 kg. Rodents over 150 g shall be sedated.
6. Only to be used for rabbits under 1 kg. Rabbits over 150 g shall be sedated.
7. Only to be used for birds under 5 kg.
8. Only to be used for rodents under 1 kg.
9. Only to be used for rabbits under 5 kg.
10. Only to be used on neonates.
11. Only to be used for birds under 250 g.
12. Only to be used if other methods are not possible.
13. Specialised equipment required.
14. Only to be used on pigs.
15. Only to be used in field conditions by experienced marksmen.
16. Only to be used in field conditions by experienced marksmen when other methods are not possible.

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- (1) [OJ L 303, 18.11.2009, p. 1.](#)