



# Alfaxan®

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For more information contact:

Jurox New Zealand Limited

8 Kordel Place,  
East Tamaki,  
Auckland

Enquiries 0800 587 696  
jenq@jurox.com.au

ACVM registration number A8040

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## Alfaxan® FAQs

Alfaxan® Anaesthetic Injection



## Frequently asked questions about Alfaxan®



### How is Alfaxan® administered?

Alfaxan® is administered by intravenous injection in the dog and by either intravenous or intramuscular injection in the cat.

### What is the dose rate of Alfaxan®?

The dose rate for Alfaxan® is 2 mg/kg in dogs and 5 mg/kg in cats. This translates to 1 mL per 5 kilogram of bodyweight in dogs and 2.5 mL per 5 kilogram body weight in cats.

**NB:** The product should be given slowly to effect. The required dose should be determined and then given intravenously at the rate of a quarter of the calculated dose at every 15 seconds.

During administration the patient should be monitored for depth of anaesthesia in the usual way. If premedicants have been used the patient may reach the desired level of anaesthesia before the entire dose has been administered.

### How long does anaesthesia last following administration of Alfaxan®?

The duration of unconsciousness will vary among patients due to a variety of internal and external factors, however following administration of Alfaxan® at recommended dosages healthy un-premedicated cats can be expected to remain anaesthetised for approximately 25 minutes and healthy, un-premedicated dogs for approximately 10 minutes.

### How safe is Alfaxan®?

**Acute tolerance** to over-dosage with Alfaxan® has been demonstrated at up to **5 times** the recommended dose of 5 mg/kg in cats and up to **10 times** the recommended dose of 2 mg/kg in dogs.<sup>[3, 4]</sup>

**Repeated overdosing** of Alfaxan® at **5 times** the recommended rate in dogs and **5 times** the recommended rate in cats, at 48 hour intervals on 3 occasions over 7 days, caused no adverse effects.<sup>[5, 6]</sup>

### What is the active ingredient of Alfaxan®?

Alfaxan® Anaesthetic Injection is an anaesthetic induction agent registered for use in dogs and cats, containing the neurosteroid, alfaxalone. This molecule is similar in structure to progesterone.

### What is the mode of action of Alfaxan®?

Alfaxalone, the active ingredient, acts at the same trans-membrane GABA<sub>A</sub> receptor as other (non-dissociative) anaesthetic induction drugs. It binds to a site on the receptor resulting in the opening of the chloride pore, allowing entry of chloride ions.<sup>[1, 2]</sup> This causes hyperpolarisation of the neurone and inhibition of impulse transmission which gives the molecule its anaesthetic properties.

### What species is Alfaxan® registered for?

Alfaxan® is registered for use as an induction – and/or maintenance – anaesthetic agent in dogs and cats.

### Where is Alfaxan® marketed?

Alfaxan® is currently marketed in Australia, New Zealand, Canada, UK, Ireland, France, Germany, Spain and a number of other countries. It awaits registration in the USA.

### How effective is Alfaxan®?

Alfaxan® has now been routinely used in more than a million surgical procedures in countries across the globe. The surgeries include (but are not limited to) castration, ovariectomy, dentistry, cancer removal, eye and ear surgery, orthopaedic procedures and a range of clinical tasks where anaesthesia is deemed appropriate – MRI, radiology, abscess cleaning and wound debridement. In fact, in any situation where anaesthesia is required, Alfaxan® has been used safely and effectively.

In a survey of veterinary anaesthesia in Australia – where it was first introduced in the early 2000s – responses showed that Alfaxan® is currently used for over 50% of all inductions in dogs and over 75% of all inductions in cats.<sup>[7]</sup>

### Can Alfaxan® be used in sighthounds?

Alfaxan® has been proven to be a reliable and effective anaesthetic induction agent in sighthounds.<sup>[8]</sup>

### Can Alfaxan® be used in Caesarean section?

Alfaxan® has been proven to be reliable and effective as an anaesthetic induction agent in canine Caesarean section.<sup>[9]</sup>

### Has Alfaxan® been used in other species beside dogs and cats?

Alfaxan® has been used in research studies in a wide range of production, laboratory and exotic animal species. Many papers have been published on its use in such species and Jurox, makers of Alfaxan®, carry this data on file.

### What is the best procedure to optimise results with Alfaxan®?

As mentioned above, alfaxalone, the active ingredient of Alfaxan® is a rapidly acting anaesthetic. When administering the product the solution should be given slowly to effect. Rapid administration of the total dose may cause apnoea in some patients.

Also the transition to maintenance on gaseous anaesthesia should occur immediately after intubation. Delays in moving to gaseous anaesthesia could result in the patient lightening and thus requiring further doses due to the short acting nature of Alfaxan®.

The use of premedication agents, as well as pain control, across the entire anaesthetic procedure is recommended. The twin concepts of **considered poly-pharmacy** and **balanced anaesthesia** – based on the use of a range of effective agents – allows reduction in individual doses, thus reducing potential side effects as well as ensuring a pain- and stress-free procedure. This increases the probability of a smooth induction, easy transition, reliable maintenance and uneventful recovery: all assisting in achieving optimum outcomes for the patient.

### Is Alfaxan® compatible with the premedicants that I'm currently using?

Alfaxan® has been proven compatible with the major groups of premedication agents including phenothiazines (acepromazine), anticholinergics (atropine), benzodiazepines (diazepam, midazolam),  $\alpha$ -2-adrenoreceptor agonists (xylazine, medetomidine, and dexmedetomidine), opiates (methadone, morphine, butorphanol, buprenorphine, hydromorphone) and NSAIDs (carprofen, meloxicam) as well as the normal gaseous maintenance agents.<sup>[18-21]</sup>

### Can Alfaxan® be used for TIVA?

Yes. Alfaxan® is registered for the induction and/or maintenance of anaesthesia in both the dog and cat. Maintenance can be achieved either by Continuous Rate Infusion (CRI) or repeated bolus administration. See the product leaflet/insert for details.

### What are the pharmacokinetic and pharmacodynamic profiles of Alfaxan®?

The active ingredient of Alfaxan®, alfaxalone, is rapidly eliminated from the body after a single dose, being completely cleared within a few hours.<sup>[22]</sup>

Alfaxan® has minimal effect of cardiovascular function.<sup>[23, 24]</sup> Therefore blood pressure is well maintained and provides acceptable tissue perfusion, important in sustaining normal tissue/organ function.

Alfaxan®, administered as recommended, causes minimal dose-dependent respiratory depression.<sup>[25, 26]</sup> Therefore patients breathe normally – assisting in smooth transition to gaseous maintenance.

### Does Alfaxan® cause tissue damage if given peri-vascularly?

No. Alfaxan® is a clear, aqueous, pH neutral iso-osmolar solution. Therefore it causes no tissue damage if inadvertently given peri-vascularly.<sup>[27]</sup>

### Do I need to use a muscle relaxant when I use Alfaxan®?

Alfaxan® provides good muscle relaxation.<sup>[23, 24]</sup> Therefore there is no need for adjunctive muscle relaxants.

### What sort of induction and transition can I expect?

With Alfaxan® there is no induction excitement from sub-anaesthetic doses.<sup>[25, 26]</sup> Therefore the injection can be given slowly to effect. This means the patient chooses the total dose required, reducing the risk of respiratory depression and allowing a smoother, more rapid transition to maintenance with a gaseous agent.

### What are the traps for the inexperienced when using Alfaxan®?

The major trap is to give the solution too rapidly. Many veterinarians have experienced excitement with other anaesthetic agents in the past, hence the tendency to 'get through' the induction phase quickly. This is the opposite of what is required with Alfaxan®. The motto for induction with Alfaxan® is **"give slowly, to effect."**

Also, alfaxalone is quite specific in its site of action, with almost complete activity as a result of effects of the GABA<sub>A</sub> receptor. This means that alfaxalone does not offer analgesia or lead to some of the euphoric effects that other anaesthetic drugs may offer in recovery. As a result, Alfaxan® should be used in conjunction with other medications to address pain and rapid return to consciousness during the recovery period.

### How long may a broached vial of Alfaxan® be kept for further use?

Alfaxan® does not contain a preservative, thus a vial cannot be kept indefinitely once it is opened. However, broached vials can be stored under refrigerated conditions (4°C) for up to 7 days provided contamination is avoided.

### Further questions?

Please contact your local Jurox representative or Jurox technical management via the Alfaxan® web site at [www.alfaxan.com](http://www.alfaxan.com)

