

## TECHNICAL NOTES



# AVet Methadone Injection



### Active Constituents

Methadone hydrochloride 10 mg/mL

### Actions

#### Pharmacology

Methadone is a potent morphine analogue neuroleptanalgesic which raises the pain threshold by binding to  $\mu$ -opiate receptors. Methadone is pharmacologically similar to, but has three times the analgesic potency of, morphine.

Methadone depresses the respiratory centre of the medulla and stimulates the vagal centre, resulting in reduced respiratory rate and minute volume, and bradycardia. Intestinal tonus is increased. All such effects are slight at clinical dose levels and may be prevented by prior administration of atropine. Convulsions and respiratory depression are seen at ten times the therapeutic dose.

Methadone is detectable in plasma within 10 minutes of subcutaneous injection. Firm protein binding appears to occur in various tissues including the brain. Methadone undergoes extensive liver biotransformation and metabolites are predominantly excreted in bile and urine together with small amounts of unchanged drug.

The narcotic action of methadone is antagonised by naloxone.

### Clinical Application

Methadone is administered for relief of pain in horses and dogs. Analgesia peaks between 10 and 20 minutes post-administration and persists 3 to 5 hours. In combination with acetylpromazine injection, methadone is an effective agent of restraint and analgesia in horses, facilitating treatment of wounds, handling and loading of difficult animals, suturing, laryngoscopy, castration, and minor surgical procedures. Following IV administration, onset of action is rapid and clinical effect is usually sufficient within 3 minutes to begin the procedure. Horses rarely become recumbent or ataxic after methadone/acetylpromazine administration, even at high doses. Clinical doses produce a somnolent but aware state in which the patient is tractable, placid, and sufficiently coordinated to minimise risk of injury to animal or operator. Methadone may be employed as a premedicant to xylazine sedation or barbiturate or ketamine anaesthesia to provide effective analgesia and restraint during painful procedures.

In dogs, methadone is used in premedication of barbiturate anaesthesia. Barbiturates have extremely poor analgesic properties, even at high dose rates. Methadone premedication of barbiturate anaesthesia smooths induction and greatly minimises the risk of drug toxicity by enabling the dose of barbiturate to be halved.

In cats, methadone is used as a premedicant for inhalation anaesthesia. Compatibility with acepromazine and propofol has been demonstrated. Repeat doses of methadone for analgesia can be given at 3 time points with 5 hour intervals.

### Indications

AVet Methadone is for analgesia and restraint in horses, and analgesia and anaesthetic premedication in dogs and cats.

### Contraindications

This product is contraindicated:

- for use during parturition.
- for use in animals with respiratory depression.
- for use in pregnant, breeding, or lactating cats, as safe use of the product in these animals has not been established.

Safe use of this formulation in cats less than one year of age has not been established. Published information supports the safe and effective use of methadone in cats older than 6 months of age.

### Precautions

AVet Methadone should be used with caution in animals with:

- hypothyroidism,
- adrenocortical insufficiency,
- impaired renal and hepatic function,
- head trauma, and
- shock.

## Dosage & Administration

Once the vial of AVet Methadone is broached, it should be used within 3 months and any unused portion discarded.

Dogs	Cats	Horses
Analgesia 0.11-0.55 mg/kg I.M. or S.C.	Analgesia 0.2 – 0.6 mg/kg S.C. Repeat analgesia 0.2 – 0.6mg/kg S.C. at 3 time points with 5-hour intervals	Analgesia 0.22 mg/kg I.M. or S.C.
Premedication 1.1 mg/kg S.C.	Premedication 0.2 – 0.6 mg/kg S.C.	Restraint 0.11 mg/kg combined with 0.055 mg/kg acetylpromazine I.V.

## Withholding Periods

AVet Methadone is NOT TO BE USED in horses intended for human consumption.

## First Aid

If poisoning occurs, contact a doctor or phone the Poisons Information Centre on 13 11 26.

## Safety Data Sheet

For Safety Data Sheet see [www.avet.health](http://www.avet.health)

## Presentation

20 mL amber multi-use vial

## Disposal

Dispose of the container by wrapping with paper and placing in the garbage. Return any unused expired product to a pharmacy or pharmacy inspector.

## Storage

Store below 30 °C (room temperature). Protect from light.

## Poisons Schedule

S8

## Registration Number

APVMA Approval Number: 90739