This leaflet format has been determined by the Ministry of Health and the content thereof has been checked and approved in March 2017

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Ketamin MediMarket 10% Veterinary

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1 ml solution for injection contains:

Active substance(s):

Ketamine hydrochloride	115.3 mg
(equivalent to ketamine	100.00 mg)

Excipients:

Benzethonium chloride	0.1 mg

For a full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Aqueous solution for injection

4. CLINICAL PARTICULARS

4.1 Target species

Dog and cat

4.2 Indications for use, specifying the target species

To induce short-term anaesthesia for diagnostic and minor surgical procedures and painful treatments like:

- cleaning or extraction of teeth
- removal of foreign bodies
- abscess incision
- surgical procedures in the oral cavity, at the face and ears
- wound care
- changing of wound dressings
- diagnostic radiology
- examination of anxious, excited or aggressive animals
- puncture
- removal of claws, shearing

To induce general anaesthesia (insensibility) and analgesia (painlessness) with unconsciousness for surgical procedures like:

- dislocation
- amputation
- castration
- sterilisation
- ovariectomy
- ovariohysterectomy
- caesarean section
- laparotomy

- plaster (reposition of fracture)

In dogs, ketamine has to be used for short-term anaesthesia only in combination with other sedatives, injectable or inhalation anaesthetics.

In cases of very painful and prolonged surgical procedures as well as for the maintenance of an achieved anaesthesia level, a combination with xylazine, injectable and inhalation anaesthetics is necessary.

4.3 Contraindications

Do not use in cases of:

decompensated heart failure, hypertension, hepatic and renal disorders, eclampsia, pre-eclampsia, glaucoma, epilepsy, traumatic brain injury, use for myelography, use as sole agent for anaesthesia in dogs as well as for surgical procedures on the upper respiratory tract without simultaneous administration of a muscle relaxant (intubation is obligatory).

Do not use in food producing animals.

4.4 Special warnings for each target species

In cats, ketamine may provoke a slight hypothermic effect, as the body temperature usually decreases by an average of 1.6 °C after administration of therapeutic doses.

4.5 Special precautions for use

Special precautions for use in animals

The intravenous injection must be performed slowly (duration: at least 60 seconds) to avoid intense respiratory depression.

During anaesthesia and during recovery, noise has to be avoided to prevent the occurrence of excitations. Adequate countermeasures shall be taken in order to prevent dehydration of the cornea of opened eyes.

Ketamine crosses the placenta barrier.

Special precautions to be taken by the person administering the veterinary medicinal product to animals

None.

4.6 Adverse reactions (frequency and seriousness)

Dependent on the dosage, respiratory depression may develop which may lead to apnoea especially in cats. Respiratory depression is enhanced when combined with veterinary medicinal products containing active substances with respiratory depressive effects, e.g. xylazine.

Further adverse reactions:

- increase in heart rate
- enhancement of hypertension which may lead to an increase in bleeding tendency
- enhancement of salivation
- opened eyes, mydriasis, nystagmus (rapid involuntary movements of the eyes)
- increased sentiency especially against acoustic stimuli during anaesthesia and during recovery
- increased skeletal muscle tone

The occurrence of post-narcotic excitations together with hyperreflexia and vocalisation is possible.

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product.

Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form

http://forms.gov.il/globaldata/getsequence/getsequence.aspx?formType=AdversEffectMedic
@moh.gov.il

4.7 Use during pregnancy, lactation or lay

Ketamine crosses the placenta barrier.
Studies in pregnant dogs did not reveal any negative effects of ketamine on pups or bitches. This was also observed during an older study in a pregnant cat. After administration of 25 - 100 mg ketamine/kg KGW to pregnant rats, histological examinations of the foetuses revealed degenerative processes in the heart, liver and kidney.

4.8 Interaction with other medicinal products and other forms of interaction

In combination with sedatives, xylazine, neuroleptics, morphine analogues, injectable and inhalation anaesthesia, ketamine-induced analgesia and anaesthesia may be enhanced and excitation avoided. Using these combinations, increased cardiovascular and respiratory depression has to be considered. Combination with neuroleptics additionally decreases the contractility of the muscle. Premedication with atropine suppresses ketamine-induced salivation.

Avoid mixing with barbiturates in the same syringe due to presumable incompatibilities. Possibly, ketamine and thyroid hormones synergistically increase the blood pressure and the heart rate.
Pesticides and insecticides may induce microsomal and metabolising enzymes leading to attenuation of the effects of ketamine.

4.9 Amounts to be administered and administration route

By intramuscular or slow intravenous injection
Following dosages of ketamine are recommended

Cat

A	10 - 20 mg/kg b.w.	for minor surgical procedures and minimal painful procedures
B	20 - 30 mg/kg b.w.	for all moderate painful procedures
C	30 - 40 mg/kg b.w.	for larger surgical procedures depending on the severity and length of the procedure

Combination: ketamine/xylazine for painful surgical procedures: 6 - 10 mg/kg b.w. ketamine and 2 mg/kg b.w. xylazine

Dog

In dogs, Ketamin MediMarket 10% Veterinary has to be used only in combination with other sedatives, injectable or inhalation anaesthetics.
Combination ketamine/xylazine: 6 - 10 mg/kg b.w. ketamine and 2 mg/kg b.w. xylazine

Ketamin MediMarket 10% Veterinary can be used for induction of general anaesthesia In this case Ketamin MediMarket 10% Veterinary has to be administered in a reduced intermediate dose level (10 - 15 mg/kg b.w. in cats, 5.5 - 11 mg/kg b.w. in dogs).
Preoperative preparation (15 - 20 minutes prior) can be done with the administration of substances inhibiting secretion (e.g. atropine, scopolamine) (dosage dog: 0.050 mg/kg b.w.; dosage cat: 0.044 mg/kg b.w.).
Following intramuscular injection of ketamine, the onset of effect occurs within 3 - 6 minutes. The duration of effect lasts for 20 minutes and more. Following intravenous injection, the effect occurs immediately (latest after 30 second) und lasts for 10 minutes and more. The dosage for intravenous injection is generally 1/4 - 1/3 of the intramuscular dosage. The intravenous injection has to be done very slowly (over 60 seconds), otherwise serious respiratory depression may occur.

During anaesthesia and recovery, noise has to be avoided to prevent the occurrence of excitations.
For prolongation of the anaesthesia with ketamine, half the dosage or the whole dosage can be administered intramuscularly or intravenously after 20 minutes. In cases of prolonged surgical procedures, the cornea should be protected from dehydration.

Combination with neuroleptics decreases the contractility of the muscle (e.g. chlorpromazine in a dosage of 0.55 mg/kg b.w.).

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

Overdose may cause central excitation up to convulsions, respiratory paralysis and cardiac arrhythmia. Convulsions may be treated with benzodiazepines.

4.11 Withdrawal period(s)

Do not use in food producing animal.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: anaesthetic
ATCvet code: QN01AX03

5.1 Pharmacodynamic properties

Ketamine is an anaesthetic agent leading to dissociative anaesthesia characterised by analgesia, superficial sleep and catalepsy. It leads to a functional disruption of the limbic and the motoric system. Analgesia occurs prior to a moderately deep hypnosis and last longer than the hypnosis. The phencyclidine derivate does not lead to anaesthesia of anaesthetic stage III.
Increasing dosage leads to excitation, ataxia, then catalepsy, finally anaesthesia and in cases of overdose to central excitation and convulsion. The stage of catalepsy is characterised by lack of motoric motivation with increased muscle tone and retained perception of pain. As the cataleptic patient is not able to react against painful procedures but is fully susceptible to pain, insufficient dosages may lead to painful surgical procedures at patients with retained consciousness and pain perception. Ketamine induces alleviation of pain in cases of superficial pain, but not in cases of visceral pain (abdominal surgery). In contrast to narcotics, sufficient high dosages of ketamine do not lead to relaxation of the muscle. Laryngeal, pharyngeal, swallowing and palpebral reflexes are maintained. Ketamine is vasodepressive, and positive ionotropic and chronotropic at the heart. Increasing the dosage of ketamine leads to deeper anaesthesia.

5.2 Pharmacokinetic particulars

Following intramuscular injection, ketamine is rapidly distributed; the onset of effect occurs after 3 - 10 minutes. Following first injection, further injections of half the dosage or the full dosage are possible after approximately 20 minutes.
In dogs, the binding to plasma proteins is 53% and in cats 37 - 53%. Half-lives are approximately 1 hour in dogs and cats. Ketamine is rapidly metabolised in the liver principally by demethylation and hydroxylation. Norketamine, which is less anaesthetically effective, is the main metabolite. The main part of the metabolites is eliminated as glucuronides via the kidenys.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Benzethonium chloride, water for injection

6.2 Major incompatibilities

Do not mix ketamine with barbiturates or diazepam in the same syringe or IV bag as precipitation may occur.

6.3 Shelf-life

Shelf-life of the veterinary medicinal product as packaged for sale: 2 years
Shelf-life after first opening of the immediate packaging: 7 days

6.4. Special precautions for storage

Store below 25°C, store in the original package and protect from light

6.5 Nature and composition of immediate packaging

Box with 10 glass vials, colourless (hydrolytic resistance of type I) with brombutyl rubber stoppers and filling volume of 25 ml each

6.6 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal product should be disposed of in accordance with local requirements.

7. MANUFACTURER

Bremer Pharma GmBH
Werkstrasse 42,
34414 Warburg
Germany

8. MARKETING AUTHORISATION HOLDER

A.L. Medi-Market
18, Hacadar St. PoB 13261
Netanya
42138 Israel

9. MARKETING AUTHORISATION NUMBER(S):

158-22-34491-00

10. DATE OF REVISION OF THE TEXT:

03.2017