

PROFESSIONAL INFORMATION

SCHEDULING STATUS: **S4**

1. NAME OF THE MEDICINE

SUGAMMADEX 100 mg/1 mL FRESENIUS solution for injection

SUGAMMADEX 200 mg/2 mL FRESENIUS solution for injection

SUGAMMADEX 500 mg/5 mL FRESENIUS solution for injection

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1 mL contains 100 mg sugammadex (as sugammadex sodium):

Each vial containing 1 mL solution for injection contains sugammadex sodium equivalent to 100 mg sugammadex.

Each vial of 2 mL contains sugammadex sodium equivalent to 200 mg sugammadex.

Each vial of 5 mL contains sugammadex sodium equivalent to 500 mg sugammadex.

Excipient(s) with known effect:

Contains up to 9,7 mg/mL sodium (see section 4.4).

Sugar free.

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Solution for injection.

Clear and colourless to slightly yellow solution.

The pH is between 7 and 8 and the osmolality is between 300 – 500 mOsmol/kg.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

SUGAMMADEX FRESENIUS is indicated for the routine reversal of neuromuscular blockade induced by rocuronium or vecuronium. SUGAMMADEX FRESENIUS is also indicated for the immediate reversal of neuromuscular blockade at 3 minutes after administration of rocuronium. For the paediatric population, SUGAMMADEX FRESENIUS is only recommended for routine reversal of rocuronium-induced blockade in children above 7 years of age.

4.2 Posology and method of administration

SUGAMMADEX FRESENIUS should only be administered under the supervision of an anaesthetist.

Posology

The use of an appropriate neuromuscular monitoring technique is recommended to monitor the recovery of neuromuscular blockade (see section 4.4). When certain medicines that may cause displacement interactions are administered parenterally within 7,5 hours of SUGAMMADEX FRESENIUS, patients should be monitored for signs of recurrence of neuromuscular blockade.

The recommended dose of SUGAMMADEX FRESENIUS depends on the level of neuromuscular blockade to be reversed. The recommended dose does not depend on the anaesthetic regimen.

SUGAMMADEX FRESENIUS can be used to reverse different levels of rocuronium or vecuronium induced neuromuscular blockade.

Routine reversal of neuromuscular blockade:

A dose of 4 mg/kg SUGAMMADEX FRESENIUS is recommended if recovery has reached at least 1 to 2 post-tetanic counts (PTC) (profound blockade) following administration of rocuronium or vecuronium induced blockade (see section 4.4).

A dose of 2 mg/kg SUGAMMADEX FRESENIUS is recommended if spontaneous recovery has occurred up to at least the reappearance of T₂ (shallow blockade) following rocuronium or vecuronium induced blockade (see section 4.4).

Immediate reversal of rocuronium-induced blockade:

If there is a clinical need for immediate reversal at 3 minutes following administration of rocuronium, a dose of 16 mg/kg SUGAMMADEX FRESENIUS is recommended. There is no data to recommend the use of sugammadex for immediate reversal following vecuronium induced blockade.

Additional information on special populations

Renal impairment:

For mild and moderate renal impairment (creatinine clearance ≥ 30 and < 80 mL/min): The dose recommendations are the same as for adults without renal impairment. The use of SUGAMMADEX FRESENIUS in patients with severe renal impairment, including patients requiring dialysis (CrCl < 30 mL/min), is not recommended (see section 4.4).

Data on patients with severe renal impairment do not provide sufficient safety information to support the use of SUGAMMADEX FRESENIUS in these patients.

Elderly patients:

After administration of SUGAMMADEX FRESENIUS at reappearance of T₂ following a rocuronium-induced blockade, the median time to recovery of the T₄/T₁ ratio to 0,9 in adults (18 - 64 years) was 2,2 minutes, in elderly adults (65 - 74 years) it was 2,6 minutes and in very

elderly adults (75 years or more) it was 3,6 minutes. Even though the recovery times in elderly tend to be slower, the same dose recommendation as for adults should be followed (see section 4.4).

Obese patients:

In obese patients, the dose of SUGAMMADEX FRESENIUS should be based on actual body weight. The same dose recommendations as for adults should be followed.

Hepatic impairment:

For mild to moderate hepatic impairment: As sugammadex is mainly excreted renally no dose adjustments of SUGAMMADEX FRESENIUS are required.

Data on patients with hepatic impairment are not available. Caution should be exercised when considering the use of SUGAMMADEX FRESENIUS in patients with severe hepatic impairment, or when hepatic impairment is accompanied by coagulopathy (see section 4.4).

Paediatric population:

The data for the paediatric population are limited (one study only for reversal of rocuronium-induced blockade at reappearance of T₂). There is insufficient information on the use of SUGAMMADEX FRESENIUS for children < 7 years of age. There is no information on SUGAMMADEX FRESENIUS use for neonates. Therefore, SUGAMMADEX FRESENIUS is not recommended for use in these populations.

Children and adolescents:

For reversal of rocuronium-induced blockade at reappearance of T₂ in children and adolescents (7 to 17 years) 2 mg/kg SUGAMMADEX FRESENIUS is recommended.

Data on **Immediate reversal** in children and adolescents are unavailable, and it is therefore not recommended.

SUGAMMADEX FRESENIUS 100 mg/mL may be diluted to 10 mg/mL to increase the accuracy of dosing in the paediatric population, 7 years and older.

Method of administration

SUGAMMADEX FRESENIUS should be administered intravenously as a single bolus injection. The bolus injection may be given rapidly, within 10 seconds, directly into a vein or into an existing intravenous line (see section 6.6).

4.3 Contraindications

SUGAMMADEX FRESENIUS is contraindicated in patients with known hypersensitivity to sugammadex sodium or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

SUGAMMADEX FRESENIUS is not to be used to reverse depolarising neuromuscular blocking agents (NMBA).

Waiting times for re-administration with neuromuscular blockers after reversal with SUGAMMADEX FRESENIUS:

Re-administration of rocuronium or vecuronium after a recommended dose reversal (up to 4 mg/kg sugammadex):

Minimum waiting time	NMBA and dose to be administered
5 minutes	1,2 mg/kg rocuronium
4 hours	0,6 mg/kg rocuronium or 0,1 mg/kg vecuronium

Based on PK modelling the recommended waiting time in patients with mild or moderate renal impairment for re-use of 0,6 mg/kg rocuronium or 0,1 mg/kg vecuronium after routine reversal

with sugammadex should be 24 hours. If a shorter waiting time is required, the rocuronium dose for a new neuromuscular blockade should be 1,2 mg/kg.

Re-administration of rocuronium or vecuronium after immediate reversal (16 mg/kg sugammadex):

A waiting time of 24 hours is recommended.

If neuromuscular blockade is required before the recommended waiting time has passed, a **non-steroidal neuromuscular blocking agent** should be used. The onset of a depolarising neuromuscular blocking agent might be slower than expected because a substantial fraction of post-junctional nicotinic receptors may still be occupied by the neuromuscular blocking agent.

Medicine hypersensitivity:

Medical practitioners should be prepared for the possibility of medicine hypersensitivity reactions (including anaphylactic reactions) and take the necessary precautions (see section 4.8).

Renal impairment:

SUGAMMADEX FRESENIUS is not recommended for use in patients with severe renal impairment (creatinine clearance <30 mL/min), including those requiring dialysis (see section 5.2).

Because of the estimated prolonged half-life of sugammadex in severe renally impaired patients, a full neuromuscular blockade may not be achieved after re-use of 0,6 mg/kg rocuronium or 0,1 mg/kg vecuronium within 24 hours after sugammadex reversal.

Marked bradycardia:

Marked bradycardia has been observed within minutes after the administration of sugammadex for reversal of neuromuscular blockade. Cases of bradycardia with cardiac arrest have been reported

(see section 4.8). Patients should be closely monitored for haemodynamic changes during and after reversal of neuromuscular blockade. Treatment with anticholinergic medicines such as atropine should be administered if clinically significant bradycardia is observed.

Monitoring respiratory function during recovery:

Ventilatory support is mandatory for patients until adequate spontaneous respiration is restored following reversal of neuromuscular block. Even if recovery from neuromuscular blockade is complete, other medicines used in the peri- and post-operative period could depress respiratory function and therefore ventilatory support might still be required.

Should neuromuscular blockade reoccur following extubation, adequate ventilation should be provided.

Recurrence of neuromuscular blockade:

In patients treated with rocuronium or vecuronium, where sugammadex was administered using a dose labelled for the depth of neuromuscular blockade, recurrence of neuromuscular blockade based on neuromuscular monitoring or clinical evidence was reported. The use of lower than recommended doses may lead to an increased risk of recurrence of neuromuscular blockade after initial reversal and is not recommended (see sections 4.2 and 4.8).

Effect on haemostasis:

In *in vitro* data a pharmacodynamic interaction (aPTT and PT prolongation) was recorded with vitamin K antagonists, unfractionated heparin, low molecular weight heparinoids, rivaroxaban and dabigatran.

Data are available of studies done in volunteers, where doses of 4 mg/kg and 16 mg/kg of sugammadex resulted in maximum mean prolongations of the activated partial thromboplastin

time (aPTT) and prothrombin time international normalised ratio. These limited mean aPTT and PT(INR) prolongations were of short duration (≤ 30 minutes).

Clinical database information shows no clinically relevant effect of sugammadex alone or in combination with anticoagulants on the incidence of peri- or post-operative bleeding complications.

Since there is no information on the use of sugammadex in patients with known coagulopathies, coagulation parameters should be carefully monitored according to routine clinical practice.

An increased risk of bleeding cannot be excluded in patients:

- with hereditary vitamin K dependent clotting factor deficiencies;
- with pre-existing coagulopathies;
- on coumarin derivatives and at an INR above 3,5;
- using anticoagulants who receive a dose of 16 mg/kg SUGAMMADEX FRESENIUS.

If there is a medical need to give SUGAMMADEX FRESENIUS to these patients, the anaesthesiologist needs to decide if the benefits outweigh the possible risk of bleeding complications, taking into consideration the patients history of bleeding episodes and type of surgery scheduled. If SUGAMMADEX FRESENIUS is administered to these patients monitoring of haemostasis and coagulation parameters is recommended.

Delayed recovery:

Conditions associated with prolonged circulation time such as cardiovascular disease, old age (see section 4.2 for the time to recovery in elderly), or oedematous state (e.g., severe hepatic impairment) may be associated with longer recovery times.

Hepatic impairment:

As sugammadex is not metabolised or excreted by the liver there are no data on patients with hepatic impairment. Hepatic impairment may be accompanied by coagulopathy (see the information on the **Effect on haemostasis** above).

Light anaesthesia:

When neuromuscular blockade was reversed intentionally in the middle of anaesthesia, signs of light anaesthesia were noted occasionally (movement, coughing, grimacing and suckling of the tracheal tube). If neuromuscular blockade is reversed, while anaesthesia is continued, additional doses of anaesthetic and/or opioid should be given as clinically indicated.

Use in intensive care unit (ICU):

No data are available on the use of sugammadex in patients receiving rocuronium or vecuronium in the ICU setting.

Use for reversal of neuromuscular blockers other than rocuronium or vecuronium:

SUGAMMADEX FRESENIUS should not be used to reverse block induced by **non-steroidal** neuromuscular blockers such as succinylcholine or benzyisoquinolinium compounds.

SUGAMMADEX FRESENIUS should not be used for reversal of neuromuscular blockade induced by **steroidal** neuromuscular blockers other than rocuronium or vecuronium, since there are no efficacy and safety data for these situations. Limited data are available for reversal of pancuronium induced blockade, but it is advised not to use SUGAMMADEX FRESENIUS in this situation.

Sodium:

SUGAMMADEX FRESENIUS contains up to 9,7 mg sodium per mL, equivalent to 0,5 % of the WHO recommended maximum daily intake of 2 g sodium for an adult.

4.5 Interaction with other medicines and other forms of interaction

The information in this section is based on binding affinity between sugammadex and other medicines, published data on clinical studies and published data on simulations using a model considering the pharmacodynamic effect of neuromuscular blockers and the pharmacokinetic interaction between neuromuscular blockers and sugammadex.

Based on these data, no clinically significant pharmacodynamic interactions with other medicines are expected, with exception of toremifene, fusidic acid and hormonal contraceptives. For these medicines a clinically relevant capturing interaction could not be excluded.

Interactions potentially affecting the efficacy of sugammadex (displacement interactions):

Due to the administration of certain medicines after sugammadex, theoretically rocuronium or vecuronium could be displaced from sugammadex. As a result, recurrence of neuromuscular blockade might be observed. In this situation the patient should be ventilated.

Administration of medicines which caused displacement should be stopped in case of an infusion. In situations when potential displacement interactions can be anticipated, patients should be carefully monitored for signs of recurrence of neuromuscular blockade (approximately up to 15 minutes), after parenteral administration of another medicine occurring within a period of 7,5 hours after SUGAMMADEX FRESENIUS administration.

SUGAMMADEX FRESENIUS should be used cautiously when co-administered with:

Toremifene:

For toremifene, which has a relatively high binding affinity for sugammadex and for which relatively high plasma concentrations might be present, some displacement of vecuronium or rocuronium from the complex with sugammadex could occur. The recovery of the train of four ratio, T_4/T_1 ratio to 0,9 could therefore be delayed in patients who have received toremifene on the same day of the operation (see section 4.4).

Intravenous administration of fusidic acid:

The use of fusidic acid in the pre-operative phase may give some delay in the recovery of the T_4/T_1 ratio to 0,9.

No recurrence of neuromuscular blockade is expected in the post-operative phase since the infusion rate of fusidic acid is over a period of several hours and the blood levels are cumulative over 2 to 3 days.

Interactions potentially affecting the efficacy of other medicines (capturing interactions):

Due to the administration of sugammadex, certain medicines could become less effective due to a lowering of the (free) plasma concentrations. If such a situation is observed, the medical practitioner is advised to consider the re-administration of the medicine, the administration of a therapeutically equivalent medicine (preferably from a different chemical class) and/or non-pharmacological interventions as appropriate.

Hormonal contraceptives:

The interaction between 4 mg/kg sugammadex and a progestogen was predicted to lead to a decrease in progestogen exposure (34 % of AUC) similar to the decrease seen when a daily dose of an oral contraceptive is taken 12 hours too late, which might lead to a reduction in effectiveness. For oestrogens, the effect is expected to be lower. Therefore, the

administration of a bolus dose of SUGAMMADEX FRESENIUS is considered to be equivalent to one missed daily dose of oral contraceptive steroids (either combined or progestogen only). If SUGAMMADEX FRESENIUS is administered at the same day as an oral contraceptive is taken reference is made to missed dose advice in the patient information leaflet of the oral contraceptive.

In the case of **non-oral** hormonal contraceptives, the patient must use an additional non-hormonal contraceptive method for the next 7 days and refer to the advice in the patient information leaflet of the product.

Interactions due to the lasting effect of rocuronium or vecuronium:

When medicines which potentiate neuromuscular blockade are used in the post-operative period special attention should be paid to the possibility of recurrence of neuromuscular blockade. Please refer to the patient information leaflet of rocuronium or vecuronium for a list of the specific medicines which potentiate neuromuscular blockade. In case recurrence of neuromuscular blockade is observed, the patient may require mechanical ventilation and re-administration of sugammadex (see section 4.2).

Interference with laboratory tests:

Suggamadex as in SUGAMMADEX FRESENIUS has been shown to interfere with the serum progesterone assay. This interference was observed in plasma samples spiked with a concentration of suggamadex in the same range as obtained for C_{max} after a dose of 16 mg/kg.

Paediatric population

No formal interaction studies have been performed. The above mentioned interactions for adults and the warnings in section 4.4 should also be considered for the paediatric population.

4.6 Fertility, pregnancy and lactation

Pregnancy

The safety in pregnant women has not been established.

Caution should be exercised when administering SUGGAMADEX FRESENIUS to pregnant women.

Breastfeeding

No data are available on the excretion of sugammadex in human breastmilk. Animal studies have shown excretion of sugammadex in breastmilk.

Fertility

The effects with sugammadex on human fertility have not been investigated.

4.7 Effects on ability to drive and use machines

SUGAMMADEX FRESENIUS has no known influence on the ability to drive and use machines.

Patients should not drive, use machinery or perform any tasks that require concentration until they are certain that SUGGAMADEX FRESENIUS does not adversely affect their ability to do so safely.

4.8 Undesirable effects

a. Summary of the safety profile

The most frequently reported adverse reactions in surgical patients were cough, airway complication of anaesthesia, anaesthetic complications, procedural hypotension and procedural complication.

b. Tabulated summary of adverse reactions

Immune system disorders

Less frequent: Medicine hypersensitivity reactions (see section 4.4)

Frequency unknown: Anaphylaxis, anaphylactic shock

Nervous system disorders

Frequent: Dysgeusia, headache

Frequency unknown: Dizziness

Cardiac disorders

Frequency unknown: Marked bradycardia, bradycardia with cardiac arrest.

Respiratory, thoracic and mediastinal disorders

Frequent: Cough

Frequency unknown: Bronchospasm

Gastro-intestinal disorders

Frequency unknown: Nausea, vomiting, abdominal pain

Skin and subcutaneous tissue disorders

Frequency unknown: Pruritus, erythema, urticaria

Injury, poisoning and procedural complications

Frequent: Airway complication of anaesthesia, anaesthetic complication (see **Anaesthetic complication** below), procedural hypotension, procedural complication (see **Procedural complication**

below), prolonged neuromuscular blockade (with sub-optimal doses)

c. Description of selected adverse reactions

Hypersensitivity reactions:

Hypersensitivity reactions, including anaphylaxis, have occurred in some patients and volunteers (for information on volunteers, see **Information on healthy volunteers** below); for post-marketing reports the frequency is unknown.

These reactions varied from skin reactions to serious systemic reactions (i.e. anaphylaxis, anaphylactic shock) and have occurred in patients with no prior exposure to sugammadex.

Symptoms associated with these reactions can include: flushing, urticaria, erythematous rash, (severe) hypotension, tachycardia, swelling of tongue, swelling of pharynx, bronchospasm and pulmonary obstructive events. Severe hypersensitivity reactions can be fatal.

In post-marketing reports, hypersensitivity has been observed for sugammadex as well as for sugammadex-rocuronium complex.

Anaesthetic complication:

Anaesthetic complications, indicative of the restoration of neuromuscular function, include movement of a limb or the body or coughing during the anaesthetic procedure or during surgery, grimacing, or sucking on the endotracheal tube. See also section 4.4, *Light anaesthesia*.

Procedural complication:

Procedural complication included coughing, tachycardia, bradycardia, movement, and increase in heartrate.

Recurrence of neuromuscular blockade:

Recurrence of neuromuscular blockade as measured with neuromuscular monitoring occurred less frequently. In cases where recurrence of neuromuscular blockade is observed, the patient should be ventilated (see section 4.4).

Marked bradycardia:

Cases of marked bradycardia and bradycardia with cardiac arrest have been reported within minutes after administration of sugammadex (see section 4.4).

Information on healthy volunteers:

Hypersensitivity reactions, including anaphylaxis, have been reported frequently in healthy volunteers receiving sugammadex 16 mg/kg and less frequently with sugammadex 4 mg/kg or placebo. Dose dependent trends were also observed for dysgeusia, nausea and flushing.

Airway complication of anaesthesia:

Airway complications of anaesthesia included bucking against the endotracheal tube, coughing, mild bucking, arousal reaction during surgery, coughing during the anaesthetic procedure or during surgery, or anaesthetic procedure-related spontaneous breath of patient.

Additional information on special populations:

Pulmonary patients:

Bronchospasm was reported as a possibly related adverse event in patients with a history of pulmonary complications.

Paediatric population:

Some data suggests that the safety profile of sugammadex (up to 4 mg/kg) in paediatric patients above 7 years old was similar to that in adults.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare providers are requested to report any suspected adverse drug reactions to SAHPRA via the Med Safety APP (Medsafety X SAHPRA) and eReporting platform (who-umc.org) found on SAHPRA website.

Healthcare providers are asked to report any suspected adverse drug reactions to the Holder of the Certificate of Registration at the following email address: safety.fksa@fresenius-kabi.com and to the relevant medicine's regulatory authority in the country where the product is marketed.

4.9 Overdose

SUGAMMADEX FRESENIUS can be removed using haemodialysis with a high-flux filter, but not with a low flux filter. Sugammadex concentrations in plasma are reduced by up to 70 % after a 3 to 6-hour dialysis session.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Category and class: A.34.Other

Pharmacotherapeutic group: all other therapeutic products, antidotes, ATC

code: V03AB35

Mechanism of action

Sugammadex sodium is a modified cyclodextrin. It is a selective relaxant binding agent (SRBA) which forms a complex with the neuromuscular blocking agents rocuronium and vecuronium, and it reduces the amount of neuromuscular blocking agent available to bind to nicotinic receptors in the neuromuscular junction. This results in the reversal of neuromuscular blockade induced by rocuronium or vecuronium.

Pharmacodynamic effects

Sugammadex has reportedly been administered in doses ranging from 0,5 mg/kg to 16 mg/kg in dose-response studies of rocuronium-induced blockade (0,6, 0,9, 1,0 and 1,2 mg/kg rocuronium bromide with and without maintenance doses) and vecuronium induced blockade (0,1 mg/kg vecuronium bromide with or without maintenance doses) at different time points/depths of blockade. In these studies, a clear dose-response relationship was observed.

5.2 Pharmacokinetic properties

The sugammadex pharmacokinetic parameters were calculated from the total sum of non-complex-bound and complex-bound concentrations of sugammadex. Pharmacokinetic parameters as clearance and volume of distribution are assumed to be the same for non-complex-bound and complex-bound sugammadex in anaesthetised patients.

Distribution:

The observed steady-state volume of distribution of sugammadex is approximately 11 to 14 litres in adult patients with normal renal function (based on conventional, non-compartmental pharmacokinetic analysis). Neither sugammadex nor rocuronium binds to plasma proteins or

erythrocytes. Sugammadex exhibits linear kinetics in the dosage range of 1 to 16 mg/kg when administered as an IV bolus dose.

Biotransformation:

No metabolites of sugammadex have been observed and only renal excretion of the unchanged product was observed as the route of elimination.

Elimination:

In adult anaesthetised patients with normal renal function the elimination half-life ($t_{1/2}$) of sugammadex is about 2 hours and the estimated plasma clearance is about 84 mL/min, with > 90 % of the dose excreted within 24 hours. Ninety six percent (96 %) of the dose was excreted in urine, of which at least 95 % could be attributed to unchanged sugammadex. Excretion via faeces or expired air was less than 0,02 % of the dose. Administration of sugammadex to healthy volunteers resulted in increased renal elimination of rocuronium in complex.

Special populations:

Renal impairment and age:

Data from a pharmacokinetic study comparing patients with severe renal impairment to patients with normal renal function, indicate that sugammadex levels in plasma were similar during the first hour after dosing, and thereafter the levels decreased faster in the control group. Total exposure to sugammadex was prolonged, leading to 17-fold higher exposure in patients with severe renal impairment. Low concentrations of sugammadex are detectable for at least 48 hours post-dose in patients with severe renal insufficiency. Predicted pharmacokinetic parameters of sugammadex by age group and renal function based on compartmental modelling are presented below:

Selected patient characteristics			Predicted PK parameters			
Demographics	Renal function (creatinine clearance) (mL/min)		Clearance (mL/min) (CV)		Volume of distribution at steady-state (L)	Elimination half-life (h) (CV)
Adult 40 yrs. 75 kg	Normal		100	84 (22 %)	11,9	2,0 (19 %)
	Impaired	Mild	50	48 (22 %)	13,1	3,6 (20 %)
		Moderate	30	29 (23 %)	13,7	6,1 (21 %)
		Severe	10	9 (19 %)	14,2	20,3 (20 %)
Elderly 75 yrs. 75 kg	Normal		80	72 (26 %)	12,4	2,4 (23 %)
	Impaired	Mild	50	49 (22 %)	13,1	3,5 (19 %)
		Moderate	30	29 (22 %)	13,7	6,1 (20 %)
		Severe	10	8 (19 %)	14,2	21,0 (23 %)
Adolescent 15 yrs. 56 kg	Normal		95	76 (20 %)	9,3	1,7 (17 %)
	Impaired	Mild	48	45 (24 %)	10,1	3,0 (21 %)
		Moderate	29	26 (22 %)	10,5	5,2 (19 %)
		Severe	10	7 (18 %)	10,9	17,8 (18 %)
Child 7 yrs. 23 kg	Normal		51	40 (21 %)	4,3	1,5 (16 %)
	Impaired	Mild	26	20 (20 %)	4,5	2,9 (19 %)
		Moderate	15	11 (27 %)	4,6	5,2 (24 %)
		Severe	5	3 (22 %)	4,7	19,4 (23 %)

Mean and coefficient of variation (CV in %) are presented. For volume of distribution, no CV could be estimated from the model.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Hydrochloric acid (to adjust pH)

Sodium hydroxide (to adjust pH)

Water for injection

6.2 Incompatibilities

SUGAMMADEX FRESENIUS must not be mixed with other medicines except those mentioned in section 6.6.

Physical incompatibility has been reported with verapamil, ondansetron and ranitidine.

6.3 Shelf life

36 months

After first opening and dilution chemical and physical in-use stability has been demonstrated for 48 hours at 2 °C to 25 °C. From a microbiological point of view, the diluted product should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user and would normally not be longer than 24 hours at 2 °C to 8 °C, unless dilution has taken place in controlled and validated aseptic conditions.

6.4 Special precautions for storage

Store at or below 30 °C.

Do not freeze. Keep the vial in the outer carton in order to protect from light.

For storage conditions of the diluted medicine, see section 6.3.

6.5 Nature and contents of container

SUGAMMADEX 100 mg/1 mL FRESENIUS and SUGAMMADEX 200 mg/2 mL FRESENIUS are packed in 2 mL, Ph. Eur. Type-1, tubular clear glass vials, stoppered with 13 mm chlorobutyl grey rubber stoppers and sealed with 20 mm aluminium flip-off overseal.

Pack sizes: 10 vials per carton

Not all pack sizes may be marketed.

SUGAMMADEX 500 mg/5 mL FRESENIUS is packed in 6 mL, Ph. Eur. Type-1, tubular clear glass vials, stoppered with 20 mm chlorobutyl grey rubber stoppers and sealed with 20 mm aluminium flip-off overseal.

Pack sizes: 10 vials per carton

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

SUGAMMADEX FRESENIUS can be injected into the intravenous line of a running infusion with the following intravenous solutions: sodium chloride 9 mg/mL (0,9 %), glucose 50 mg/mL (5 %), sodium chloride 4,5 mg/mL (0,45 %) and glucose 25 mg/mL (2,5 %), Ringers lactate solution, Ringers solution, glucose 50 mg/mL (5 %) in sodium chloride 9 mg/mL (0,9 %).

The infusion line should be adequately flushed (e.g., with 0,9 % sodium chloride) between administration of SUGAMMADEX FRESENIUS and other medicines.

Use in the paediatric population:

For paediatric patients SUGAMMADEX FRESENIUS can be diluted using sodium chloride 9 mg/mL (0,9 %) to a concentration of 10 mg/mL.

Any unused medicine or waste material should be disposed of in accordance with local requirements.

7. HOLDER OF THE CERTIFICATE OF REGISTRATION

Fresenius Kabi South Africa (Pty) Ltd

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8. REGISTRATION NUMBERS

SUGAMMADEX 100 mg/1 mL FRESENIUS: 56/34/0943

SUGAMMADEX 200 mg/2 mL FRESENIUS: 56/34/0944

SUGAMMADEX 500 mg/5 mL FRESENIUS: 56/34/0945

9. DATE OF FIRST AUTHORISATION/RENEWAL OF AUTHORISATION

Date of first authorisation: 23 January 2024

10. DATE OF REVISION OF THE TEXT

24 October 2025