SMOFKABIVEN EMULSION FOR INFUSION

SMOFKABIVEN ELECTROLYTE FREE EMULSION FOR INFUSION

SMOFKABIVEN PERIPHERAL EMULSION FOR INFUSION

SMOFKABIVEN EXTRA NITROGEN EMULSION FOR INFUSION

SMOFKABIVEN EXTRA NITROGEN ELECTROLYTE FREE EMULSION FOR INFUSION

SMOFKABIVEN LOW OSMO PERIPHERAL EMULSION FOR INFUSION

Public Summaries of Risk Management Plans

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VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven content of amino acid, lipid emulsion, glucose and electrolytes consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

SmofKabiven is a well-established product. There are no significant unknowns regarding the benefits of the product.

SmofKabiven content of amino acid, lipid emulsion, glucose and electolytes to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven.

VI.2.4 SUMMARY OF SAFETY CONCERNS SMOFKABIVEN

Safety Concern	**What is known**	**Preventability**
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes.	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites.	In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Excessive intake of potassium may cause hyperkalaemia which may cause nerve and muscle disorders. As the heart is a muscle irregular heart rate	SmofKabiven should not be administered when serum levels of any of the included electrolytes are pathologically

Safety Concern	What is known	Preventability
	and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	elevated as for any PN.
	SmofKabiven is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a consequence of reintroduction of feeding after a period of starvation or fasting. Therefore, the applicant	Careful initiation of slow infusion and controls with appropriate adjustments are recommended

Safety Concern	What is known	Preventability
	adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabiven is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven during pregnancy.	SmofKabiven should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.

VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN ELECTROLYTE FREE

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven Electrolyte Free content of amino acid, lipid emulsion, glucose and consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

SmofKabiven electrolyte free is a well-established product. There are no significant unknowns regarding the benefits of the product.

SmofKabiven electrolyte free content of amino acid, lipid emulsion, and glucose to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven electrolyte free.

VI.2.4 SUMMARY OF SAFETY CONCERNS SMOFKABIVEN ELECTROLYTE FREE

Safety Concern	**What is known**	**Preventability**
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes.	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites.	In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Excessive intake of potassium may cause hyperkalaemia which may cause	SmofKabiven Electrolyte Free should not be administered when

Safety Concern	What is known	Preventability
	nerve and muscle disorders. As the heart is a muscle irregular heart rate and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	serum levels of any of the included electrolytes are pathologically elevated as for any PN.
	SmofKabiven Electrolyte Free is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a	Careful initiation of slow infusion and controls with appropriate adjustments are recommended

Safety Concern	What is known	Preventability
	consequence of reintroduction of feeding after a period of starvation or fasting. Therefore, the applicant adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabivenElectrolyte Free is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven Electrolyte Free during pregnancy.	SmofKabiven Electrolyte Free should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven electrolyte free can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.

VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN PERIPHERAL

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven Peripheral content of amino acid, lipid emulsion, glucose and electrolytes and consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

SmofKabiven Peripheral is a well-established product. There are no significant unknowns regarding the benefits of the product.

SmofKabiven Peripheral content of amino acid, lipid emulsion, glucose and electolytes to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven Peripheral.

VI.2.4 Summary of Safety Concerns SMOFKabiven Peripheral

Safety Concern	What is known	Preventability
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes.	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites.	In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Excessive intake of potassium may cause hyperkalaemia which may cause nerve and muscle disorders. As the	SmofKabiven Peripheral should not be administered when serum levels of any of the included

Safety Concern	What is known	Preventability
	heart is a muscle irregular heart rate and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	electrolytes are pathologically elevated as for any PN.
	SmofKabiven Peripheral is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a consequence of reintroduction of feeding after a period of starvation or	Careful initiation of slow infusion and controls with appropriate adjustments are recommended

Safety Concern	What is known	Preventability
	fasting. Therefore, the applicant adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabiven Peripheral is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven Peripheral during pregnancy.	SmofKabiven Peripheral should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven Peripheral can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.

VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN EXTRA NITROGEN

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven extra Nitrogen content of amino acid, lipid emulsion, glucose and electrolytes and consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

There are no significant unknowns regarding the benefits of the product.

SmofKabiven extra Nitrogen content of amino acid, lipid emulsion, glucose and electolytes to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven extra Nitrogen.

VI.2.4 SUMMARY OF SAFETY CONCERNS

Safety Concern	**What is known**	**Preventability**
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes.	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites.	In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Excessive intake of potassium may	SmofKabiven extra Nitrogen

Safety Concern	What is known	Preventability
	cause hyperkalaemia which may cause nerve and muscle disorders. As the heart is a muscle irregular heart rate and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	should not be administered when serum levels of any of the included electrolytes are pathologically elevated as for any PN.
	SmofKabiven extra Nitrogen is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		

Safety Concern	What is known	Preventability
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a consequence of reintroduction of feeding after a period of starvation or fasting. Therefore, the applicant adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	Careful initiation of slow infusion and controls with appropriate adjustments are recommended
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabiven extra Nitrogen is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven extra Nitrogen during pregnancy.	SmofKabiven extra Nitrogen should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven extra Nitrogen can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.

VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN EXTRA NITROGEN ELECTROLYTE FREE

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven extra Nitrogen Electrolyte Free content of amino acid, lipid emulsion, glucose and consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

There are no significant unknowns regarding the benefits of the product.

SmofKabiven extra Nitrogen Electrolyte Free content of amino acid, lipid emulsion, and glucose to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven extra Nitrogen Electrolyte Free.

VI.2.4 SUMMARY OF SAFETY CONCERNS

Safety Concern	**What is known**	**Preventability**
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes.	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites.	In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required.
	Excessive intake of potassium may cause hyperkalaemia which may cause	SmofKabiven extra Nitrogen Electrolyte Free should not be

Safety Concern	What is known	Preventability
	nerve and muscle disorders. As the heart is a muscle irregular heart rate and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	administered when serum levels of any of the included electrolytes are pathologically elevated as for any PN.
	SmofKabiven extra Nitrogen Electrolyte Free is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a	Careful initiation of slow infusion and controls with appropriate adjustments are recommended

Safety Concern	What is known	Preventability
	consequence of reintroduction of feeding after a period of starvation or fasting. Therefore, the applicant adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabiven extra Nitrogen Electrolyte Free is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven extra Nitrogen Electrolyte Free during pregnancy.	SmofKabiven extra Nitrogen Electrolyte Free should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven extra Nitrogen Electrolyte Free can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.

VI.2 ELEMENTS FOR A PUBLIC SUMMARY, SMOFKABIVEN LOW OSMO PERIPHERAL

VI.2.1 OVERVIEW OF DISEASE EPIDEMIOLOGY

Malnourish people like cancer patients need extra nutrition. If an oral or enteral feeding is not possible, there is no alternative to parenteral nutrition.

VI.2.2 SUMMARY OF TREATMENT BENEFITS

SmofKabiven Low Osmo Peripheral content of amino acid, lipid emulsion, glucose and electrolytes and consists of a three chamber bag system. Glucose in varying concentrations is well established as the optimal carbohydrate source for PN. Aminoven 10% has been authorized for marketing since January 1999 and SMOFlipid 20% has been authorized since February 2004 in several countries worldwide. All substance are well known for parenteral nutrition and the different packages sizes are intended for patients with high, moderately increased or basal nutrition requirements.

VI.2.3 UNKNOWNS RELATING TO TREATMENT BENEFITS

There are no significant unknowns regarding the benefits of the product.

SmofKabiven Low Osmo Peripheral content of amino acid, lipid emulsion, glucose and electrolytes to meet the requirements for parenteral nutrition. The main rationale behind the product is that it should be suitable for the majority of patients requiring intravenous nutrition (IVN). This is a complex task, since inevitably this needs to be a compromise of a range of different requirements- the basal needs of some home IVN patients, the variably increased needs of some home IVN patients if they have large losses from the small bowel, the increased needs of patients post-surgery if they are hypermetabolic or have increased losses, or the increased needs of the patient recovering from a severely depleted state. It was, and still is recognised, that some patients have increased, and some decreased requirements, relative to the composition in SmofKabiven Low Osmo Peripheral.

VI.2.4 SUMMARY OF SAFETY CONCERNS

Safety Concern	**What is known**	**Preventability**
Important Identified Risks		
Metabolic/electrolytes abnormalities	Patients with renal disorders are at risk of alternating blood volume and changes in blood electolytes. Metabolic conversions of amino acids are complex and inborn errors of amino acids can thus impair or hinder their physiologic metabolism. Serious adverse drug effects can result from accumulations of metabolites. Excessive intake of potassium may	In kidney disease individual adjustment of doses as well as regular clinical and laboratory controls are required. In altered amino acids individual adjustment of doses as well as regular clinical and laboratory controls are required. SmofKabiven Low Osmo

Safety Concern	What is known	Preventability
	cause hyperkalaemia which may cause nerve and muscle disorders. As the heart is a muscle irregular heart rate and also heart arrest may occur. Hypermagnesaemia is an abnormally elevated level of magnesium in the blood which may cause impaired breathing, impaired heart function and impaired function of the nerves which resulted in dizziness, sleepiness and decreased tendon reflexes.	Peripheral should not be administered when serum levels of any of the included electrolytes are pathologically elevated as for any PN.
	SmofKabiven Low Osmo Peripheral is contraindicated in patient with severe post-traumatic conditions, severe and not corrected diabetes mellitus, acute myocardial infarction, stroke, embolism, metabolic acidosis, and severe sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Attention should be given in patients with impaired lipid metabolism, which may occur in patients with renal failure, diabetes mellitus, pancreatitis, impaired liver function, hypothyroidism and sepsis.	Serum glucose, electrolytes and osmolarity as well as fluid balance, acid-base status and liver enzyme tests should be monitored.
	Impaired capacity to eliminate triglycerides can lead to “Fat overload syndrome” which may be caused by overdose This is characterised by hyperlipemia, fever, fat infiltration, a great liver with or without jaundice, greater spleen, anemia, leukopenia, thrombocytopenia, coagulation disorder etc. The symptoms are usually reversible if the infusion of the lipid emulsion is discontinued.	If symptoms of overdose of fat or amino acids occur, the infusion should be slowed down or discontinued.
	If the glucose clearance capacity of the patient is exceeded, hyperglycaemia will develop..	If hyperglycaemia occurs, it should be treated according to the clinical situation either by appropriate insulin administration and/or adjustment of the infusion rate .
Important Potential Risks		

Safety Concern	What is known	Preventability
Refeeding syndrome	In underfed patients, initiation of PN can induce refeeding syndrome. This is a series of metabolic and biochemical changes that occur as a consequence of reintroduction of feeding after a period of starvation or fasting. Therefore, the applicant adequately warns that fluid shifts can result influid into the lungs, heart failure, irregular heart rate , and decrease in serum concentration of potassium, phosphate, magnesium, and water-soluble vitamins	Careful initiation of slow infusion and controls with appropriate adjustments are recommended
Missing Information		
Posology for newborns or infants below 2 years of age	SmofKabiven Low Osmo Peripheral is not recommended for use in newborns or infants below 2 years of age as there is no clinical experience	Not applicable.
Use in pregnant and lactating women	No specific studies have been performed to assess the safety of SmofKabiven Low Osmo Peripheral during pregnancy.	SmofKabiven Low Osmo Peripheral should only be given to pregnant and breast-feeding women after careful consideration.

VI.2.5 SUMMARY OF RISK MINIMISATION MEASURES BY SAFETY CONCERN

All medicines have a Summary of Product Characteristics (SmPC) which provides physicians, pharmacists and other health care professionals with details on how to use the medicine, the risks and recommendations for minimising them. An abbreviated version of this in lay language is provided in the form of the package leaflet (PL). The measures in these documents are known as routine risk minimisation measures.

The Summary of Product Characteristics and the Package leaflet for SmofKabiven Low Osmo Peripheral can be found in Annex 2 of this RMP.

This medicine has no additional risk minimisation measures.

VI.2.6 PLANNED POST-AUTHORISATION DEVELOPMENT PLAN

Not applicable.

VI.2.7 SUMMARY OF CHANGES TO THE RISK MANAGEMENT PLAN OVER TIME

Not applicable.