HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION safely and effectively. See full prescribing information for POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION.

POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE injection, for intravenous use
Initial U.S. Approval: 1979

----------RECENT MAJOR CHANGES----------

Contraindications (4)	02/2019
Warnings and Precautions (5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7)	02/2019

----------INDICATIONS AND USAGE----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories. (1)

----------DOSAGE AND ADMINISTRATION----------
- Only for intravenous infusion. (2.1, 5.2)
- See full prescribing information for information on preparation, administration, dosing considerations and instructions for use. (2.1, 2.2, 2.3)

----------DOSAGE FORMS AND STRENGTHS----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is available in multiple strengths. See full prescribing information for detailed description of each formulation. (3)

----------CONTRAINDICATIONS----------
- Known hypersensitivity to potassium chloride, dextrose, or sodium chloride (4, 5.1)
- Clinically significant hyperkalemia (4, 5.2)
- Clinically significant hyperglycemia (4, 5.3)

----------WARNINGS AND PRECAUTIONS----------
- Hypersensitivity Reactions: monitor for signs and symptoms and discontinue infusion if reactions occur. (5.1)
- Hyperkalemia: May result in cardiac arrhythmias. Avoid use in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs. (5.2)
- Hyperglycemia or Hyperosmolar Hyperglycemic State: Monitor blood glucose and administer insulin as needed. (5.3, 8.4)
- Hyponatremia, Hypernatremia and Hyperchloremia: Avoid in patients with or at risk for hypo-/hypernatremia. If use cannot be avoided, monitor serum sodium concentrations. (5.4, 5.5, 8.4)
- Fluid Overload: Avoid in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor daily fluid balance and electrolyte, concentrations and acid-base balance, as needed and especially during prolonged use. (5.6)
- Refeeding Syndrome: Monitor severely undernourished patients and slowly increase nutrient intake. (5.7)

----------ADVERSE REACTIONS----------
Adverse reactions include electrolyte imbalances, hyperglycemia, and hypervolemia and injection site reactions. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Baxter Healthcare at 1-866-888-2472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

---------- DRUG INTERACTIONS ----------
- Other Products that Cause Hyperkalemia: Avoid use in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations. (7.1)
- Lithium: Decreased lithium concentrations with concomitant use; monitor serum lithium concentrations. (7.2)
- Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance: Monitor blood glucose concentrations, fluid balance serum electrolyte concentrations and acid-base balance. (7.3)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 02/2019

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories.

2 DOSAGE AND ADMINISTRATION

2.1 Important Administration Instructions

- Potassium Chloride in Dextrose and Sodium Chloride Injection is only for intravenous infusion *[see Warnings and Precautions (5.2)]*.
- The osmolarity of Potassium Chloride in Dextrose and Sodium Chloride Injection, ranges from 361 to 641 mOsmol/L (calc). Peripheral administration is generally acceptable; however; consider central vein administration if there is peripheral vein irritation, phlebitis, and/or associated pain especially with higher potassium concentrations.
- Do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection simultaneously with blood products through the same administration set because of the possibility of pseudoagglutination or hemolysis.
- To prevent air embolism, use a non-vented infusion set or close the vent on a vented set, avoid multiple connections, do not connect flexible containers in series, fully evacuate residual gas in the container prior to administration, do not pressurize the flexible container to increase flow rates, and if administration is controlled by a pumping device, turn off pump before the container runs dry.
- Prior to infusion, visually inspect the solution for particulate matter. The solution should be clear and there should be no precipitates. Do not administer unless solution is clear and container is undamaged.
- Use of a final filter is recommended during administration of parenteral solutions, where possible.

2.2 Recommended Dosage

The choice of the specific potassium chloride, sodium chloride, and dextrose concentrations, rate and volume depends on the age, weight, clinical and metabolic conditions of the patient and concomitant therapy. Electrolyte supplementation may be indicated according to the clinical needs of the patient.

The administration rate should be governed, especially for premature infants with low birth weight, during the first few days of therapy, by the patient's tolerance to dextrose. Increase the infusion rate gradually as indicated by frequent monitoring of blood glucose concentrations *[see Warnings and Precautions (5.1), Use in Specific Populations (8.4)]*.

2.3 Instructions for Use

To Open

- Do not remove container from overwrap until ready to use.
- Tear overwrap down side at slit and remove solution container.
- Visually inspect the container. Some opacity of the plastic due to moisture absorption during the sterilization process may be observed. This is normal and does not affect the solution quality or safety. The opacity will diminish gradually. Evaluate the following:
    - If the outlet port protector is damaged, detached, or not present, discard container.
    - Check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.
    - Check for minute leaks by squeezing inner bag firmly. If leaks are found, discard container.

Preparation for Administration

1. Suspend container from eyelet support.
2. Remove protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

To Add Medication

- Additives may be incompatible. Complete information is not available. Do not use additives known or determined to be incompatible.
- Consult with pharmacist, if available. If, in the informed judgment of the healthcare provider, it is deemed advisable to introduce additives, use aseptic technique.
- When introducing additives, consult the instructions for use of the medication to be added and other relevant literature.

- Before adding a substance or medication, verify that it is soluble and/or stable in Potassium Chloride in Dextrose and Sodium Chloride Injection and that the pH range of Potassium Chloride in Dextrose and Sodium Chloride Injection is appropriate.

To Add Medication Before Solution Administration

1. Prepare medication site.
2. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
3. Mix solution and medication thoroughly. For high density medication such as potassium chloride, squeeze ports while ports are upright and mix thoroughly.
4. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.

To Add Medication During Solution Administration

1. Close clamp on the set.
2. Prepare medication site.
3. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
4. Remove container from IV pole and/or turn to an upright position.
5. Evacuate both ports by squeezing them while container is in the upright position.
6. Mix solution and medication thoroughly.
7. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals, do not use.

<u>Storage</u>

- Use promptly; do not store solutions containing additives.
- Single-dose container.
- Discard any unused portion.

3 DOSAGE FORMS AND STRENGTHS

Potassium Chloride in Dextrose and Sodium Chloride Injection, USP are clear solutions in 500 mL and 1000 mL single-dose, flexible containers:

500 mL flexible container

- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.33% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride

1000 mL flexible container

- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 30 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride

4 CONTRAINDICATIONS

Potassium Chloride in Dextrose and Sodium Chloride Injection is contraindicated in patients with:

- known hypersensitivity to potassium chloride, dextrose and/or sodium chloride *[see Warnings and Precautions 5.1)]*
- clinically significant hyperkalemia *[see Warnings and Precautions (5.2)]*
- clinically significant hyperglycemia *[see Warnings and Precautions (5.3)]*

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity Reactions

Hypersensitivity and infusion reactions, including anaphylaxis, have been reported with Potassium Chloride in Dextrose and Sodium Chloride Injection *[see Adverse Reactions (6)]*. Stop the infusion immediately if signs or symptoms of a hypersensitivity or infusion reaction develops *[see Contraindications (4)]*. Appropriate therapeutic countermeasures must be instituted as clinically indicated.

5.2 Hyperkalemia

Potassium-containing solutions, including Potassium Chloride in Dextrose and Sodium Chloride Injection may increase the risk of hyperkalemia. Hyperkalemia can be

asymptomatic and manifest only by increased serum potassium concentrations and/or characteristic electrocardiographic (ECG) changes. Cardiac arrhythmias, some fatal, can develop at any time during hyperkalemia.

To avoid life threatening hyperkalemia, do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection as an intravenous push (i.e., intravenous injection manually with a syringe connected to the intravenous access, without quantitative infusion device *[see Dosage and Administration (2.1)]*.

Patients at increased risk of developing hyperkalemia and cardiac arrhythmias include those:

- with severe renal impairment, acute dehydration, extensive tissue injury or burns, and certain cardiac disorders such as congestive heart failure or AV block (especially if they receive digoxin).
- with hyperosmolality, acidosis, or undergoing correction of alkalosis (conditions associated with a shift of potassium from intracellular to extracellular space).
- treated concurrently or recently with agents or products that can cause or increase the risk of hyperkalemia *[see Drug Interactions (7.1)]*.

Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs.

5.3 Hyperglycemia and Hyperosmolar Hyperglycemic State

The use of dextrose infusions in patients with impaired glucose tolerance may worsen hyperglycemia. Administration of dextrose at a rate exceeding the patient's utilization rate may lead to hyperglycemia, coma, and death.

Hyperglycemia is associated with an increase in serum osmolality, resulting in osmotic diuresis, dehydration and electrolyte losses *[see Warnings and Precautions (5.6)]*. Patients with underlying central nervous system disease and renal impairment who receive dextrose infusions, may be at greater risk of developing hyperosmolar hyperglycemic state.

Monitor blood glucose concentrations and treat hyperglycemia to maintain concentrations within normal limits while administering Potassium Chloride in Dextrose and Sodium

Chloride Injection. Insulin may be administered or adjusted to maintain optimal blood glucose concentrations.

5.4 Hyponatremia

Potassium Chloride in Dextrose and Sodium Chloride Injection is a hypertonic solution *[see Description, Table 1 (11)]*. In the body, however, glucose containing fluids can become extremely physiologically hypotonic due to rapid glucose metabolization. Monitoring of serum sodium is particularly important for hypotonic fluids.

Depending on the tonicity of the solution, the volume and rate of infusion, and depending on a patient's underlying clinical condition and capability to metabolize glucose, intravenous administration of glucose can cause electrolyte disturbances, most importantly hypo- or hyperosmotic hyponatremia.

The risk for hyponatremia is increased, in pediatric patients, elderly patients, postoperative patients, those with psychogenic polydipsia and in patients treated with medications that increase the risk of hyponatremia (such as certain diuretic, antiepileptic and psychotropic medications). Close clinical monitoring may be warranted.

Acute hyponatremia can lead to acute hyponatremic encephalopathy characterized by headache, nausea, seizures, lethargy and vomiting. Patients with brain edema are at particular risk of severe, irreversible and life-threatening brain injury. Patients at increased risk for developing complications of hyponatremia, such as hyponatremic encephalopathy include pediatric patients; women, in particular, premenopausal women; patients with hypoxemia; and in patients with underlying central nervous system disease *[see Use in Specific Populations (8.4, 8.5)]*.

Avoid solutions with less than 0.9% Sodium Chloride in patients with or at risk for hyponatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hyponatremia is potentially dangerous with risk of serious neurologic complications such as osmotic demyelination syndrome with risk of seizures and cerebral edema. To avoid complications, monitor serum sodium and chloride concentrations, fluid status, acid-base balance, and signs of neurologic complications.

High volume infusion must be used with close monitoring in patients with cardiac or pulmonary failure, and in patients with non-osmotic vasopressin release (including SIADH), due to the risk of hospital-acquired hyponatremia.

5.5 Hypernatremia and Hyperchloremia

Electrolyte imbalances such as hypernatremia and hyperchloremia, leading to metabolic acidosis may occur with solutions containing 0.9% Sodium Chloride.

Conditions that may increase the risk of hypernatremia, fluid overload and edema (central and peripheral), include patients with pre-eclampsia, primary hyperaldosteronism and secondary hyperaldosteronism associated with, for example, hypertension, congestive heart failure, severe renal insufficiency, liver disease (including cirrhosis), and renal disease (including renal artery stenosis, nephrosclerosis).

Medications such as corticosteroids or corticotropin, may increase the risk of sodium and fluid retention.

Avoid in patients with or at risk for hypernatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hypernatremia is potentially dangerous with risk of serious neurologic complications. Excessively rapid correction of hypernatremia is also associated with a risk for serious neurologic complications such as osmotic demyelination syndrome (ODS) with risk of seizures and cerebral edema.

5.6 Fluid Overload

Depending on the volume and rate of infusion, the patient's underlying clinical condition and capability to metabolize dextrose, intravenous administration of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema.

Avoid Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor fluid balance, electrolyte concentrations, and acid-base balance as needed and especially during prolonged use.

5.7 Refeeding Syndrome

Refeeding severely undernourished patients may result in the refeeding syndrome that is characterized by the shift of potassium, phosphorus, and magnesium intracellularly as the patient becomes anabolic. Thiamine deficiency and fluid retention may also develop. To prevent these complications, monitor severely undernourished patients and slowly increasing nutrient intake.

6 ADVERSE REACTIONS

The following adverse reactions associated with the use of Potassium Chloride in Dextrose and Sodium Chloride Injection were identified in postmarketing reports. Because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

The following clinically significant adverse reactions are described elsewhere in the labeling:

- *Hypersensitivity Reactions*: anaphylaxis, rash and pruritus *[see Warnings and Precautions (5.1)]*.
- *Metabolism and Nutrition Disorders*: hyperkalemia *[see Warnings and Precautions (5.2)]*, hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*, hyponatremia and hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*, fluid overload *[see Warnings and Precautions (5.6)]* and refeeding syndrome *[see Warnings and Precautions (5.2)]*. Hypernatremia and hyperchloremia acidosis *[see Warnings and Precautions (5.5)]* have been observed in solutions containing 0.9% sodium chloride.
- *Cardiac Disorder*: cardiac arrest as a manifestation of rapid intravenous administration and/or of hyperkalemia *[see Warnings and Precautions (5.2)]*.
- *Infusion Site Reactions*: injection site vesicles, extravasation, venous thrombosis or phlebitis, infusion site pain.

7 DRUG INTERACTIONS

7.1 Other Products that Cause Hyperkalemia

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated concurrently or recently with other products that can cause hyperkalemia or increase the risk of hyperkalemia (e.g., potassium-sparing diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers) increases the risk of severe and potentially fatal hyperkalemia, in particular in the presence of other risk factors for hyperkalemia *[see Warnings and Precautions (5.2)]*. Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations.

7.2 Lithium

Renal sodium and lithium clearance may be increased during administration of Potassium Chloride in Dextrose and Sodium Chloride Injection resulting in decreased serum lithium concentrations. Monitor serum lithium concentrations during concomitant use.

7.3 Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance

Potassium Chloride in Dextrose and Sodium Chloride Injection can affect glycemic control, vasopressin and fluid and/or electrolyte balance *[see Warnings and Precautions (5.3, 5.4, 5.5, 5.6)]*. Monitor blood glucose concentrations, fluid balance, serum electrolyte concentrations and acid-base balance when using Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated with other substances that affect glycemic control, vasopressin or fluid and/or electrolyte balance.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Appropriate administration of Potassium Chloride in Dextrose Sodium Chloride Injection during pregnancy is not expected to cause adverse developmental outcomes, including congenital malformations. Animal reproduction studies have not been conducted with Potassium Chloride in Dextrose Sodium Chloride Injection.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

8.2 Lactation

Risk Summary

Sodium and potassium are present in human breast milk. There are no data on the effects of Potassium Chloride in Sodium Chloride and Glucose on a breastfed infant or the effects on milk production.

The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for Potassium Chloride in Dextrose and Sodium Chloride Injection and any potential adverse effects on the breastfed infant from Potassium

Chloride in Dextrose and Sodium Chloride Injection or from the underlying maternal condition.

8.4 Pediatric Use

The safety profile of Potassium Chloride in Dextrose and Sodium Chloride Injection in pediatric patients is similar to adults.

Neonates, especially premature infants with low birth weight, are at increased risk of developing hypo- or hyperglycemia and therefore need close monitoring during treatment with intravenous glucose solutions to ensure adequate glycemic control in order to avoid potential long term adverse effects.

Closely monitor plasma electrolyte concentrations in pediatric patients who may have impaired ability to regulate fluids and electrolytes. In very low birth weight infants, excessive or rapid administration of Potassium Chloride in Dextrose and Sodium Chloride Injection may result in increased serum osmolality and risk of intracerebral hemorrhage.

Children (including neonates and older children) are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy.

8.5 Geriatric Use

Clinical studies of Potassium Chloride in Dextrose and Sodium Chloride Injection did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

Elderly patients are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*. Potassium Chloride in Dextrose and Sodium Chloride Injection is known to be substantially excreted by the kidney, and the risk of adverse reactions to this product may be greater in patients with impaired renal function *[see Warnings and Precautions (5.2)]*.

Dose selection for an elderly patient should be cautious, starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

8.6 Renal Impairment

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with renal impairment may result in hyponatremia, hyperkalemia and/or fluid

overload. Monitor patients with renal impairment for development of these adverse reactions *[see Warnings and Precautions (5.2, 5.5, 5.6)]*.

10 OVERDOSAGE

An increased infusion rate of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause:

Hyperkalemia

- Manifestations of hyperkalemia may include:
    - disturbances in cardiac conduction and arrhythmias, including bradycardia, heart block, asystole, ventricular tachycardia, ventricular fibrillation,
    - hypotension,
    - muscle weakness up to and including muscular and respiratory paralysis, paresthesia of extremities,
    - gastrointestinal symptoms (ileus, nausea, vomiting, abdominal pain)

    The presence of any ECG findings that are suspected to be caused by hyperkalemia should be considered a medical emergency.

    If hyperkalemia is present or suspected, discontinue the infusion immediately and institute close ECG, laboratory and other monitoring and, as necessary, corrective therapy to reduce serum potassium concentrations *[see Warnings and Precautions (5.2)]*.

Other Electrolyte and Fluid Disorders

- hyponatremia, manifestations may include seizures, coma, cerebral edema and death).
- hypernatremia, especially in patients with severe renal impairment.
- fluid overload (which can lead to central and/or peripheral edema).
- Hyperglycemia, hyperosmolality, and adverse effects on water and electrolyte balance, and corresponding complications, which can be fatal *[see Warnings and Precautions (5.3, 5.6)]*.

    Interventions include discontinuation of the infusion, dose reduction, monitoring of fluid balance, electrolyte concentrations and acid-base balance and institution of appropriate corrective measures such as administration of exogenous insulin.

11 DESCRIPTION

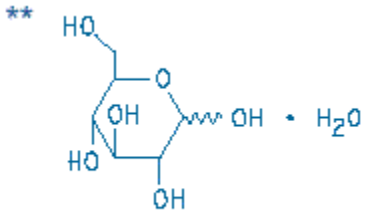
Potassium Chloride in Dextrose and Sodium Chloride Injection, USP is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment and caloric supply in a single-dose container for intravenous administration. It contains no antimicrobial agents. Composition, osmolarity, pH, ionic concentration and caloric content are shown in Table 1.

Table 1

mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
		** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP										
20 mEq/L	1000	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
10 mEq/500 mL	500	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP										
10 mEq/500 mL	500	50	3.3	**1.5**	405	4.5 (3.5 to 6.5)	56	20	76	170
Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP										
10 mEq/L	1000	50	4.5	**0.75**	426	4.5 (3.5 to 6.5)	77	10	87	170
20 mEq/L	1000	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
10 mEq/500 mL	500	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
30 mEq/L	1000	50	4.5	**2.24**	466	4.5 (3.5 to 6.5)	77	30	107	170
40 mEq/L	1000	50	4.5	**3**	487	4.5 (3.5 to 6.5)	77	40	117	170
Potassium Chloride in 5% Dextrose and										
20 mEq/L	1000	50	9	**1.5**	601	4.5 (3.5 to 6.5)	154	20	174	170

Table 1	mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
			** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
0.9% Sodium Chloride Injection, USP	40 mEq/L	1000	50	9	**3**	641	4.5 (3.5 to 6.5)	154	40	194	170

*Normal physiologic osmolarity range is approximately 280 to 310 mOsmol/L.



D-Glucose monohydrate

Dextrose is derived from corn.

The VIAFLEX Plus plastic container is fabricated from a specially formulated polyvinyl chloride (PL 146 Plastic). VIAFLEX Plus on the container indicates the presence of a drug additive in a drug vehicle. The VIAFLEX Plus plastic container system utilizes the same container as the VIAFLEX plastic container system. The amount of water that can permeate from inside the container into the overwrap is insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexyl phthalate (DEHP), up to 5 parts per million. However, the safety of the plastic has been confirmed in tests in animals according to USP biological tests for plastic containers as well as by tissue culture toxicity studies.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Potassium Chloride in Dextrose and Sodium Chloride Injection is a source of water, electrolytes and calories. It is capable of inducing diuresis depending on the clinical condition of the patient.

16 HOW SUPPLIED/STORAGE AND HANDLING

Potassium Chloride in Dextrose and Sodium Chloride Injection, are clear solutions in 500 mL and 1000 mL single-dose, flexible containers available as follows:

Code	Size (mL)	NDC	mEq Potassium	Product Name
2B1614	1000	0338-0663-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP
2B1613	500	0338-0663-03	10 mEq	
2B1473	500	0338-0603-03	10 mEq	Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP
2B1644	1000	0338-0669-04	10 mEq	Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP
2B1654	1000	0338-0671-04	20 mEq	
2B1653	500	0338-0671-03	10 mEq	
2B1664	1000	0338-0673-04	30 mEq	
2B1674	1000	0338-0675-04	40 mEq	
2B2434	1000	0338-0803-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.9% Sodium Chloride Injection, USP
2B2454	1000	0338-0807-04	40 mEq	

Storage: Avoid excessive heat. Store at room temperature (25°C); brief exposure up to 40°C does not adversely affect the product.

17 PATIENT COUNSELING INFORMATION

Inform patients, caregivers or home healthcare providers of the following risks of Potassium Chloride in Dextrose and Sodium Chloride Injection:

- Hypersensitivity Reactions *[see Warnings and Precautions (5.1)]*
- Hyperkalemia *[see Warnings and Precautions (5.2)]*
- Hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*
- Hyponatremia *[see Warnings and Precautions (5.4)]*
- Hypernatremia and hyperchloremia *[see Warnings and Precautions (5.5)]*

- Fluid overload *[see Warnings and Precautions (5.6)]*
- Refeeding syndrome *[see Warnings and Precautions (5.7)]*

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HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION safely and effectively. See full prescribing information for POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION.

POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE injection, for intravenous use
Initial U.S. Approval: 1979

----------RECENT MAJOR CHANGES----------

Contraindications (4)	02/2019
Warnings and Precautions (5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7)	02/2019

----------INDICATIONS AND USAGE----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories. (1)

----------DOSAGE AND ADMINISTRATION----------
- Only for intravenous infusion. (2.1, 5.2)
- See full prescribing information for information on preparation, administration, dosing considerations and instructions for use. (2.1, 2.2, 2.3)

----------DOSAGE FORMS AND STRENGTHS----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is available in multiple strengths. See full prescribing information for detailed description of each formulation. (3)

----------CONTRAINDICATIONS----------
- Known hypersensitivity to potassium chloride, dextrose, or sodium chloride (4, 5.1)
- Clinically significant hyperkalemia (4, 5.2)
- Clinically significant hyperglycemia (4, 5.3)

----------WARNINGS AND PRECAUTIONS----------
- Hypersensitivity Reactions: monitor for signs and symptoms and discontinue infusion if reactions occur. (5.1)
- Hyperkalemia: May result in cardiac arrhythmias. Avoid use in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs. (5.2)
- Hyperglycemia or Hyperosmolar Hyperglycemic State: Monitor blood glucose and administer insulin as needed. (5.3, 8.4)
- Hyponatremia, Hypernatremia and Hyperchloremia: Avoid in patients with or at risk for hypo-/hypernatremia. If use cannot be avoided, monitor serum sodium concentrations. (5.4, 5.5, 8.4)
- Fluid Overload: Avoid in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor daily fluid balance and electrolyte, concentrations and acid-base balance, as needed and especially during prolonged use. (5.6)
- Refeeding Syndrome: Monitor severely undernourished patients and slowly increase nutrient intake. (5.7)

----------ADVERSE REACTIONS----------
Adverse reactions include electrolyte imbalances, hyperglycemia, and hypervolemia and injection site reactions. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Baxter Healthcare at 1-866-888-2472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

---------- DRUG INTERACTIONS ----------
- Other Products that Cause Hyperkalemia: Avoid use in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations. (7.1)
- Lithium: Decreased lithium concentrations with concomitant use; monitor serum lithium concentrations. (7.2)
- Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance: Monitor blood glucose concentrations, fluid balance serum electrolyte concentrations and acid-base balance. (7.3)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 02/2019

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories.

2 DOSAGE AND ADMINISTRATION

2.1 Important Administration Instructions

- Potassium Chloride in Dextrose and Sodium Chloride Injection is only for intravenous infusion *[see Warnings and Precautions (5.2)]*.
- The osmolarity of Potassium Chloride in Dextrose and Sodium Chloride Injection, ranges from 361 to 641 mOsmol/L (calc). Peripheral administration is generally acceptable; however; consider central vein administration if there is peripheral vein irritation, phlebitis, and/or associated pain especially with higher potassium concentrations.
- Do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection simultaneously with blood products through the same administration set because of the possibility of pseudoagglutination or hemolysis.
- To prevent air embolism, use a non-vented infusion set or close the vent on a vented set, avoid multiple connections, do not connect flexible containers in series, fully evacuate residual gas in the container prior to administration, do not pressurize the flexible container to increase flow rates, and if administration is controlled by a pumping device, turn off pump before the container runs dry.
- Prior to infusion, visually inspect the solution for particulate matter. The solution should be clear and there should be no precipitates. Do not administer unless solution is clear and container is undamaged.
- Use of a final filter is recommended during administration of parenteral solutions, where possible.

2.2 Recommended Dosage

The choice of the specific potassium chloride, sodium chloride, and dextrose concentrations, rate and volume depends on the age, weight, clinical and metabolic conditions of the patient and concomitant therapy. Electrolyte supplementation may be indicated according to the clinical needs of the patient.

The administration rate should be governed, especially for premature infants with low birth weight, during the first few days of therapy, by the patient's tolerance to dextrose. Increase the infusion rate gradually as indicated by frequent monitoring of blood glucose concentrations *[see Warnings and Precautions (5.1), Use in Specific Populations (8.4)]*.

2.3 Instructions for Use

To Open

- Do not remove container from overwrap until ready to use.
- Tear overwrap down side at slit and remove solution container.
- Visually inspect the container. Some opacity of the plastic due to moisture absorption during the sterilization process may be observed. This is normal and does not affect the solution quality or safety. The opacity will diminish gradually. Evaluate the following:
    - If the outlet port protector is damaged, detached, or not present, discard container.
    - Check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.
    - Check for minute leaks by squeezing inner bag firmly. If leaks are found, discard container.

Preparation for Administration

1. Suspend container from eyelet support.
2. Remove protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

To Add Medication

- Additives may be incompatible. Complete information is not available. Do not use additives known or determined to be incompatible.
- Consult with pharmacist, if available. If, in the informed judgment of the healthcare provider, it is deemed advisable to introduce additives, use aseptic technique.
- When introducing additives, consult the instructions for use of the medication to be added and other relevant literature.

- Before adding a substance or medication, verify that it is soluble and/or stable in Potassium Chloride in Dextrose and Sodium Chloride Injection and that the pH range of Potassium Chloride in Dextrose and Sodium Chloride Injection is appropriate.

To Add Medication Before Solution Administration

1. Prepare medication site.
2. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
3. Mix solution and medication thoroughly. For high density medication such as potassium chloride, squeeze ports while ports are upright and mix thoroughly.
4. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.

To Add Medication During Solution Administration

1. Close clamp on the set.
2. Prepare medication site.
3. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
4. Remove container from IV pole and/or turn to an upright position.
5. Evacuate both ports by squeezing them while container is in the upright position.
6. Mix solution and medication thoroughly.
7. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals, do not use.

<u>Storage</u>

- Use promptly; do not store solutions containing additives.
- Single-dose container.
- Discard any unused portion.

3 DOSAGE FORMS AND STRENGTHS

Potassium Chloride in Dextrose and Sodium Chloride Injection, USP are clear solutions in 500 mL and 1000 mL single-dose, flexible containers:

500 mL flexible container

- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.33% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride

1000 mL flexible container

- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 30 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride

4 CONTRAINDICATIONS

Potassium Chloride in Dextrose and Sodium Chloride Injection is contraindicated in patients with:

- known hypersensitivity to potassium chloride, dextrose and/or sodium chloride *[see Warnings and Precautions 5.1)]*
- clinically significant hyperkalemia *[see Warnings and Precautions (5.2)]*
- clinically significant hyperglycemia *[see Warnings and Precautions (5.3)]*

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity Reactions

Hypersensitivity and infusion reactions, including anaphylaxis, have been reported with Potassium Chloride in Dextrose and Sodium Chloride Injection *[see Adverse Reactions (6)]*. Stop the infusion immediately if signs or symptoms of a hypersensitivity or infusion reaction develops *[see Contraindications (4)]*. Appropriate therapeutic countermeasures must be instituted as clinically indicated.

5.2 Hyperkalemia

Potassium-containing solutions, including Potassium Chloride in Dextrose and Sodium Chloride Injection may increase the risk of hyperkalemia. Hyperkalemia can be

asymptomatic and manifest only by increased serum potassium concentrations and/or characteristic electrocardiographic (ECG) changes. Cardiac arrhythmias, some fatal, can develop at any time during hyperkalemia.

To avoid life threatening hyperkalemia, do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection as an intravenous push (i.e., intravenous injection manually with a syringe connected to the intravenous access, without quantitative infusion device *[see Dosage and Administration (2.1)]*.

Patients at increased risk of developing hyperkalemia and cardiac arrhythmias include those:

- with severe renal impairment, acute dehydration, extensive tissue injury or burns, and certain cardiac disorders such as congestive heart failure or AV block (especially if they receive digoxin).
- with hyperosmolality, acidosis, or undergoing correction of alkalosis (conditions associated with a shift of potassium from intracellular to extracellular space).
- treated concurrently or recently with agents or products that can cause or increase the risk of hyperkalemia *[see Drug Interactions (7.1)]*.

Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs.

5.3 Hyperglycemia and Hyperosmolar Hyperglycemic State

The use of dextrose infusions in patients with impaired glucose tolerance may worsen hyperglycemia. Administration of dextrose at a rate exceeding the patient's utilization rate may lead to hyperglycemia, coma, and death.

Hyperglycemia is associated with an increase in serum osmolality, resulting in osmotic diuresis, dehydration and electrolyte losses *[see Warnings and Precautions (5.6)]*. Patients with underlying central nervous system disease and renal impairment who receive dextrose infusions, may be at greater risk of developing hyperosmolar hyperglycemic state.

Monitor blood glucose concentrations and treat hyperglycemia to maintain concentrations within normal limits while administering Potassium Chloride in Dextrose and Sodium

Chloride Injection. Insulin may be administered or adjusted to maintain optimal blood glucose concentrations.

5.4 Hyponatremia

Potassium Chloride in Dextrose and Sodium Chloride Injection is a hypertonic solution *[see Description, Table 1 (11)]*. In the body, however, glucose containing fluids can become extremely physiologically hypotonic due to rapid glucose metabolization. Monitoring of serum sodium is particularly important for hypotonic fluids.

Depending on the tonicity of the solution, the volume and rate of infusion, and depending on a patient's underlying clinical condition and capability to metabolize glucose, intravenous administration of glucose can cause electrolyte disturbances, most importantly hypo- or hyperosmotic hyponatremia.

The risk for hyponatremia is increased, in pediatric patients, elderly patients, postoperative patients, those with psychogenic polydipsia and in patients treated with medications that increase the risk of hyponatremia (such as certain diuretic, antiepileptic and psychotropic medications). Close clinical monitoring may be warranted.

Acute hyponatremia can lead to acute hyponatremic encephalopathy characterized by headache, nausea, seizures, lethargy and vomiting. Patients with brain edema are at particular risk of severe, irreversible and life-threatening brain injury. Patients at increased risk for developing complications of hyponatremia, such as hyponatremic encephalopathy include pediatric patients; women, in particular, premenopausal women; patients with hypoxemia; and in patients with underlying central nervous system disease *[see Use in Specific Populations (8.4, 8.5)]*.

Avoid solutions with less than 0.9% Sodium Chloride in patients with or at risk for hyponatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hyponatremia is potentially dangerous with risk of serious neurologic complications such as osmotic demyelination syndrome with risk of seizures and cerebral edema. To avoid complications, monitor serum sodium and chloride concentrations, fluid status, acid-base balance, and signs of neurologic complications.

High volume infusion must be used with close monitoring in patients with cardiac or pulmonary failure, and in patients with non-osmotic vasopressin release (including SIADH), due to the risk of hospital-acquired hyponatremia.

5.5 Hypernatremia and Hyperchloremia

Electrolyte imbalances such as hypernatremia and hyperchloremia, leading to metabolic acidosis may occur with solutions containing 0.9% Sodium Chloride.

Conditions that may increase the risk of hypernatremia, fluid overload and edema (central and peripheral), include patients with pre-eclampsia, primary hyperaldosteronism and secondary hyperaldosteronism associated with, for example, hypertension, congestive heart failure, severe renal insufficiency, liver disease (including cirrhosis), and renal disease (including renal artery stenosis, nephrosclerosis).

Medications such as corticosteroids or corticotropin, may increase the risk of sodium and fluid retention.

Avoid in patients with or at risk for hypernatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hypernatremia is potentially dangerous with risk of serious neurologic complications. Excessively rapid correction of hypernatremia is also associated with a risk for serious neurologic complications such as osmotic demyelination syndrome (ODS) with risk of seizures and cerebral edema.

5.6 Fluid Overload

Depending on the volume and rate of infusion, the patient's underlying clinical condition and capability to metabolize dextrose, intravenous administration of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema.

Avoid Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor fluid balance, electrolyte concentrations, and acid-base balance as needed and especially during prolonged use.

5.7 Refeeding Syndrome

Refeeding severely undernourished patients may result in the refeeding syndrome that is characterized by the shift of potassium, phosphorus, and magnesium intracellularly as the patient becomes anabolic. Thiamine deficiency and fluid retention may also develop. To prevent these complications, monitor severely undernourished patients and slowly increasing nutrient intake.

6 ADVERSE REACTIONS

The following adverse reactions associated with the use of Potassium Chloride in Dextrose and Sodium Chloride Injection were identified in postmarketing reports. Because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

The following clinically significant adverse reactions are described elsewhere in the labeling:

- *Hypersensitivity Reactions*: anaphylaxis, rash and pruritus *[see Warnings and Precautions (5.1)]*.
- *Metabolism and Nutrition Disorders*: hyperkalemia *[see Warnings and Precautions (5.2)]*, hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*, hyponatremia and hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*, fluid overload *[see Warnings and Precautions (5.6)]* and refeeding syndrome *[see Warnings and Precautions (5.2)]*. Hypernatremia and hyperchloremia acidosis *[see Warnings and Precautions (5.5)]* have been observed in solutions containing 0.9% sodium chloride.
- *Cardiac Disorder*: cardiac arrest as a manifestation of rapid intravenous administration and/or of hyperkalemia *[see Warnings and Precautions (5.2)]*.
- *Infusion Site Reactions*: injection site vesicles, extravasation, venous thrombosis or phlebitis, infusion site pain.

7 DRUG INTERACTIONS

7.1 Other Products that Cause Hyperkalemia

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated concurrently or recently with other products that can cause hyperkalemia or increase the risk of hyperkalemia (e.g., potassium-sparing diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers) increases the risk of severe and potentially fatal hyperkalemia, in particular in the presence of other risk factors for hyperkalemia *[see Warnings and Precautions (5.2)]*. Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations.

7.2 Lithium

Renal sodium and lithium clearance may be increased during administration of Potassium Chloride in Dextrose and Sodium Chloride Injection resulting in decreased serum lithium concentrations. Monitor serum lithium concentrations during concomitant use.

7.3 Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance

Potassium Chloride in Dextrose and Sodium Chloride Injection can affect glycemic control, vasopressin and fluid and/or electrolyte balance *[see Warnings and Precautions (5.3, 5.4, 5.5, 5.6)]*. Monitor blood glucose concentrations, fluid balance, serum electrolyte concentrations and acid-base balance when using Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated with other substances that affect glycemic control, vasopressin or fluid and/or electrolyte balance.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Appropriate administration of Potassium Chloride in Dextrose Sodium Chloride Injection during pregnancy is not expected to cause adverse developmental outcomes, including congenital malformations. Animal reproduction studies have not been conducted with Potassium Chloride in Dextrose Sodium Chloride Injection.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

8.2 Lactation

Risk Summary

Sodium and potassium are present in human breast milk. There are no data on the effects of Potassium Chloride in Sodium Chloride and Glucose on a breastfed infant or the effects on milk production.

The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for Potassium Chloride in Dextrose and Sodium Chloride Injection and any potential adverse effects on the breastfed infant from Potassium

Chloride in Dextrose and Sodium Chloride Injection or from the underlying maternal condition.

8.4 Pediatric Use

The safety profile of Potassium Chloride in Dextrose and Sodium Chloride Injection in pediatric patients is similar to adults.

Neonates, especially premature infants with low birth weight, are at increased risk of developing hypo- or hyperglycemia and therefore need close monitoring during treatment with intravenous glucose solutions to ensure adequate glycemic control in order to avoid potential long term adverse effects.

Closely monitor plasma electrolyte concentrations in pediatric patients who may have impaired ability to regulate fluids and electrolytes. In very low birth weight infants, excessive or rapid administration of Potassium Chloride in Dextrose and Sodium Chloride Injection may result in increased serum osmolality and risk of intracerebral hemorrhage.

Children (including neonates and older children) are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy.

8.5 Geriatric Use

Clinical studies of Potassium Chloride in Dextrose and Sodium Chloride Injection did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

Elderly patients are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*. Potassium Chloride in Dextrose and Sodium Chloride Injection is known to be substantially excreted by the kidney, and the risk of adverse reactions to this product may be greater in patients with impaired renal function *[see Warnings and Precautions (5.2)]*.

Dose selection for an elderly patient should be cautious, starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

8.6 Renal Impairment

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with renal impairment may result in hyponatremia, hyperkalemia and/or fluid

overload. Monitor patients with renal impairment for development of these adverse reactions *[see Warnings and Precautions (5.2, 5.5, 5.6)]*.

10 OVERDOSAGE

An increased infusion rate of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause:

Hyperkalemia

- Manifestations of hyperkalemia may include:
    - disturbances in cardiac conduction and arrhythmias, including bradycardia, heart block, asystole, ventricular tachycardia, ventricular fibrillation,
    - hypotension,
    - muscle weakness up to and including muscular and respiratory paralysis, paresthesia of extremities,
    - gastrointestinal symptoms (ileus, nausea, vomiting, abdominal pain)

    The presence of any ECG findings that are suspected to be caused by hyperkalemia should be considered a medical emergency.

    If hyperkalemia is present or suspected, discontinue the infusion immediately and institute close ECG, laboratory and other monitoring and, as necessary, corrective therapy to reduce serum potassium concentrations *[see Warnings and Precautions (5.2)]*.

Other Electrolyte and Fluid Disorders

- hyponatremia, manifestations may include seizures, coma, cerebral edema and death).
- hypernatremia, especially in patients with severe renal impairment.
- fluid overload (which can lead to central and/or peripheral edema).
- Hyperglycemia, hyperosmolality, and adverse effects on water and electrolyte balance, and corresponding complications, which can be fatal *[see Warnings and Precautions (5.3, 5.6)]*.

    Interventions include discontinuation of the infusion, dose reduction, monitoring of fluid balance, electrolyte concentrations and acid-base balance and institution of appropriate corrective measures such as administration of exogenous insulin.

11 DESCRIPTION

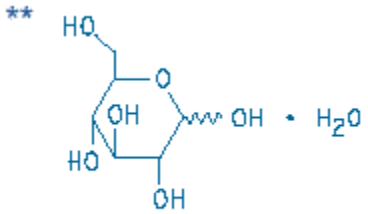
Potassium Chloride in Dextrose and Sodium Chloride Injection, USP is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment and caloric supply in a single-dose container for intravenous administration. It contains no antimicrobial agents. Composition, osmolarity, pH, ionic concentration and caloric content are shown in Table 1.

Table 1

mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
		** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP										
20 mEq/L	1000	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
10 mEq/500 mL	500	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP										
10 mEq/500 mL	500	50	3.3	**1.5**	405	4.5 (3.5 to 6.5)	56	20	76	170
Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP										
10 mEq/L	1000	50	4.5	**0.75**	426	4.5 (3.5 to 6.5)	77	10	87	170
20 mEq/L	1000	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
10 mEq/500 mL	500	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
30 mEq/L	1000	50	4.5	**2.24**	466	4.5 (3.5 to 6.5)	77	30	107	170
40 mEq/L	1000	50	4.5	**3**	487	4.5 (3.5 to 6.5)	77	40	117	170
Potassium Chloride in 5% Dextrose and										
20 mEq/L	1000	50	9	**1.5**	601	4.5 (3.5 to 6.5)	154	20	174	170

Table 1	mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
			** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
0.9% Sodium Chloride Injection, USP	40 mEq/L	1000	50	9	**3**	641	4.5 (3.5 to 6.5)	154	40	194	170

*Normal physiologic osmolarity range is approximately 280 to 310 mOsmol/L.



D-Glucose monohydrate

Dextrose is derived from corn.

The VIAFLEX Plus plastic container is fabricated from a specially formulated polyvinyl chloride (PL 146 Plastic). VIAFLEX Plus on the container indicates the presence of a drug additive in a drug vehicle. The VIAFLEX Plus plastic container system utilizes the same container as the VIAFLEX plastic container system. The amount of water that can permeate from inside the container into the overwrap is insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexyl phthalate (DEHP), up to 5 parts per million. However, the safety of the plastic has been confirmed in tests in animals according to USP biological tests for plastic containers as well as by tissue culture toxicity studies.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Potassium Chloride in Dextrose and Sodium Chloride Injection is a source of water, electrolytes and calories. It is capable of inducing diuresis depending on the clinical condition of the patient.

16 HOW SUPPLIED/STORAGE AND HANDLING

Potassium Chloride in Dextrose and Sodium Chloride Injection, are clear solutions in 500 mL and 1000 mL single-dose, flexible containers available as follows:

Code	Size (mL)	NDC	mEq Potassium	Product Name
2B1614	1000	0338-0663-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP
2B1613	500	0338-0663-03	10 mEq	
2B1473	500	0338-0603-03	10 mEq	Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP
2B1644	1000	0338-0669-04	10 mEq	Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP
2B1654	1000	0338-0671-04	20 mEq	
2B1653	500	0338-0671-03	10 mEq	
2B1664	1000	0338-0673-04	30 mEq	
2B1674	1000	0338-0675-04	40 mEq	
2B2434	1000	0338-0803-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.9% Sodium Chloride Injection, USP
2B2454	1000	0338-0807-04	40 mEq	

Storage: Avoid excessive heat. Store at room temperature (25°C); brief exposure up to 40°C does not adversely affect the product.

17 PATIENT COUNSELING INFORMATION

Inform patients, caregivers or home healthcare providers of the following risks of Potassium Chloride in Dextrose and Sodium Chloride Injection:

- Hypersensitivity Reactions *[see Warnings and Precautions (5.1)]*
- Hyperkalemia *[see Warnings and Precautions (5.2)]*
- Hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*
- Hyponatremia *[see Warnings and Precautions (5.4)]*
- Hypernatremia and hyperchloremia *[see Warnings and Precautions (5.5)]*

- Fluid overload *[see Warnings and Precautions (5.6)]*
- Refeeding syndrome *[see Warnings and Precautions (5.7)]*

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HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION safely and effectively. See full prescribing information for POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION.

POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE injection, for intravenous use
Initial U.S. Approval: 1979

----------RECENT MAJOR CHANGES----------

Contraindications (4)	02/2019
Warnings and Precautions (5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7)	02/2019

----------INDICATIONS AND USAGE----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories. (1)

----------DOSAGE AND ADMINISTRATION----------
- Only for intravenous infusion. (2.1, 5.2)
- See full prescribing information for information on preparation, administration, dosing considerations and instructions for use. (2.1, 2.2, 2.3)

----------DOSAGE FORMS AND STRENGTHS----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is available in multiple strengths. See full prescribing information for detailed description of each formulation. (3)

----------CONTRAINDICATIONS----------
- Known hypersensitivity to potassium chloride, dextrose, or sodium chloride (4, 5.1)
- Clinically significant hyperkalemia (4, 5.2)
- Clinically significant hyperglycemia (4, 5.3)

----------WARNINGS AND PRECAUTIONS----------
- Hypersensitivity Reactions: monitor for signs and symptoms and discontinue infusion if reactions occur. (5.1)
- Hyperkalemia: May result in cardiac arrhythmias. Avoid use in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs. (5.2)
- Hyperglycemia or Hyperosmolar Hyperglycemic State: Monitor blood glucose and administer insulin as needed. (5.3, 8.4)
- Hyponatremia, Hypernatremia and Hyperchloremia: Avoid in patients with or at risk for hypo-/hypernatremia. If use cannot be avoided, monitor serum sodium concentrations. (5.4, 5.5, 8.4)
- Fluid Overload: Avoid in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor daily fluid balance and electrolyte, concentrations and acid-base balance, as needed and especially during prolonged use. (5.6)
- Refeeding Syndrome: Monitor severely undernourished patients and slowly increase nutrient intake. (5.7)

----------ADVERSE REACTIONS----------
Adverse reactions include electrolyte imbalances, hyperglycemia, and hypervolemia and injection site reactions. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Baxter Healthcare at 1-866-888-2472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

---------- DRUG INTERACTIONS ----------
- Other Products that Cause Hyperkalemia: Avoid use in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations. (7.1)
- Lithium: Decreased lithium concentrations with concomitant use; monitor serum lithium concentrations. (7.2)
- Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance: Monitor blood glucose concentrations, fluid balance serum electrolyte concentrations and acid-base balance. (7.3)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 02/2019

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories.

2 DOSAGE AND ADMINISTRATION

2.1 Important Administration Instructions

- Potassium Chloride in Dextrose and Sodium Chloride Injection is only for intravenous infusion *[see Warnings and Precautions (5.2)]*.
- The osmolarity of Potassium Chloride in Dextrose and Sodium Chloride Injection, ranges from 361 to 641 mOsmol/L (calc). Peripheral administration is generally acceptable; however; consider central vein administration if there is peripheral vein irritation, phlebitis, and/or associated pain especially with higher potassium concentrations.
- Do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection simultaneously with blood products through the same administration set because of the possibility of pseudoagglutination or hemolysis.
- To prevent air embolism, use a non-vented infusion set or close the vent on a vented set, avoid multiple connections, do not connect flexible containers in series, fully evacuate residual gas in the container prior to administration, do not pressurize the flexible container to increase flow rates, and if administration is controlled by a pumping device, turn off pump before the container runs dry.
- Prior to infusion, visually inspect the solution for particulate matter. The solution should be clear and there should be no precipitates. Do not administer unless solution is clear and container is undamaged.
- Use of a final filter is recommended during administration of parenteral solutions, where possible.

2.2 Recommended Dosage

The choice of the specific potassium chloride, sodium chloride, and dextrose concentrations, rate and volume depends on the age, weight, clinical and metabolic conditions of the patient and concomitant therapy. Electrolyte supplementation may be indicated according to the clinical needs of the patient.

The administration rate should be governed, especially for premature infants with low birth weight, during the first few days of therapy, by the patient's tolerance to dextrose. Increase the infusion rate gradually as indicated by frequent monitoring of blood glucose concentrations *[see Warnings and Precautions (5.1), Use in Specific Populations (8.4)]*.

2.3 Instructions for Use

To Open

- Do not remove container from overwrap until ready to use.
- Tear overwrap down side at slit and remove solution container.
- Visually inspect the container. Some opacity of the plastic due to moisture absorption during the sterilization process may be observed. This is normal and does not affect the solution quality or safety. The opacity will diminish gradually. Evaluate the following:
    - If the outlet port protector is damaged, detached, or not present, discard container.
    - Check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.
    - Check for minute leaks by squeezing inner bag firmly. If leaks are found, discard container.

Preparation for Administration

1. Suspend container from eyelet support.
2. Remove protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

To Add Medication

- Additives may be incompatible. Complete information is not available. Do not use additives known or determined to be incompatible.
- Consult with pharmacist, if available. If, in the informed judgment of the healthcare provider, it is deemed advisable to introduce additives, use aseptic technique.
- When introducing additives, consult the instructions for use of the medication to be added and other relevant literature.

- Before adding a substance or medication, verify that it is soluble and/or stable in Potassium Chloride in Dextrose and Sodium Chloride Injection and that the pH range of Potassium Chloride in Dextrose and Sodium Chloride Injection is appropriate.

To Add Medication Before Solution Administration

1. Prepare medication site.
2. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
3. Mix solution and medication thoroughly. For high density medication such as potassium chloride, squeeze ports while ports are upright and mix thoroughly.
4. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.

To Add Medication During Solution Administration

1. Close clamp on the set.
2. Prepare medication site.
3. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
4. Remove container from IV pole and/or turn to an upright position.
5. Evacuate both ports by squeezing them while container is in the upright position.
6. Mix solution and medication thoroughly.
7. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals, do not use.

<u>Storage</u>

- Use promptly; do not store solutions containing additives.
- Single-dose container.
- Discard any unused portion.

3 DOSAGE FORMS AND STRENGTHS

Potassium Chloride in Dextrose and Sodium Chloride Injection, USP are clear solutions in 500 mL and 1000 mL single-dose, flexible containers:

500 mL flexible container

- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.33% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride

1000 mL flexible container

- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 30 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride

4 CONTRAINDICATIONS

Potassium Chloride in Dextrose and Sodium Chloride Injection is contraindicated in patients with:

- known hypersensitivity to potassium chloride, dextrose and/or sodium chloride *[see Warnings and Precautions 5.1)]*
- clinically significant hyperkalemia *[see Warnings and Precautions (5.2)]*
- clinically significant hyperglycemia *[see Warnings and Precautions (5.3)]*

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity Reactions

Hypersensitivity and infusion reactions, including anaphylaxis, have been reported with Potassium Chloride in Dextrose and Sodium Chloride Injection *[see Adverse Reactions (6)]*. Stop the infusion immediately if signs or symptoms of a hypersensitivity or infusion reaction develops *[see Contraindications (4)]*. Appropriate therapeutic countermeasures must be instituted as clinically indicated.

5.2 Hyperkalemia

Potassium-containing solutions, including Potassium Chloride in Dextrose and Sodium Chloride Injection may increase the risk of hyperkalemia. Hyperkalemia can be

asymptomatic and manifest only by increased serum potassium concentrations and/or characteristic electrocardiographic (ECG) changes. Cardiac arrhythmias, some fatal, can develop at any time during hyperkalemia.

To avoid life threatening hyperkalemia, do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection as an intravenous push (i.e., intravenous injection manually with a syringe connected to the intravenous access, without quantitative infusion device *[see Dosage and Administration (2.1)]*.

Patients at increased risk of developing hyperkalemia and cardiac arrhythmias include those:

- with severe renal impairment, acute dehydration, extensive tissue injury or burns, and certain cardiac disorders such as congestive heart failure or AV block (especially if they receive digoxin).
- with hyperosmolality, acidosis, or undergoing correction of alkalosis (conditions associated with a shift of potassium from intracellular to extracellular space).
- treated concurrently or recently with agents or products that can cause or increase the risk of hyperkalemia *[see Drug Interactions (7.1)]*.

Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs.

5.3 Hyperglycemia and Hyperosmolar Hyperglycemic State

The use of dextrose infusions in patients with impaired glucose tolerance may worsen hyperglycemia. Administration of dextrose at a rate exceeding the patient's utilization rate may lead to hyperglycemia, coma, and death.

Hyperglycemia is associated with an increase in serum osmolality, resulting in osmotic diuresis, dehydration and electrolyte losses *[see Warnings and Precautions (5.6)]*. Patients with underlying central nervous system disease and renal impairment who receive dextrose infusions, may be at greater risk of developing hyperosmolar hyperglycemic state.

Monitor blood glucose concentrations and treat hyperglycemia to maintain concentrations within normal limits while administering Potassium Chloride in Dextrose and Sodium

Chloride Injection. Insulin may be administered or adjusted to maintain optimal blood glucose concentrations.

5.4 Hyponatremia

Potassium Chloride in Dextrose and Sodium Chloride Injection is a hypertonic solution *[see Description, Table 1 (11)]*. In the body, however, glucose containing fluids can become extremely physiologically hypotonic due to rapid glucose metabolization. Monitoring of serum sodium is particularly important for hypotonic fluids.

Depending on the tonicity of the solution, the volume and rate of infusion, and depending on a patient's underlying clinical condition and capability to metabolize glucose, intravenous administration of glucose can cause electrolyte disturbances, most importantly hypo- or hyperosmotic hyponatremia.

The risk for hyponatremia is increased, in pediatric patients, elderly patients, postoperative patients, those with psychogenic polydipsia and in patients treated with medications that increase the risk of hyponatremia (such as certain diuretic, antiepileptic and psychotropic medications). Close clinical monitoring may be warranted.

Acute hyponatremia can lead to acute hyponatremic encephalopathy characterized by headache, nausea, seizures, lethargy and vomiting. Patients with brain edema are at particular risk of severe, irreversible and life-threatening brain injury. Patients at increased risk for developing complications of hyponatremia, such as hyponatremic encephalopathy include pediatric patients; women, in particular, premenopausal women; patients with hypoxemia; and in patients with underlying central nervous system disease *[see Use in Specific Populations (8.4, 8.5)]*.

Avoid solutions with less than 0.9% Sodium Chloride in patients with or at risk for hyponatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hyponatremia is potentially dangerous with risk of serious neurologic complications such as osmotic demyelination syndrome with risk of seizures and cerebral edema. To avoid complications, monitor serum sodium and chloride concentrations, fluid status, acid-base balance, and signs of neurologic complications.

High volume infusion must be used with close monitoring in patients with cardiac or pulmonary failure, and in patients with non-osmotic vasopressin release (including SIADH), due to the risk of hospital-acquired hyponatremia.

5.5 Hypernatremia and Hyperchloremia

Electrolyte imbalances such as hypernatremia and hyperchloremia, leading to metabolic acidosis may occur with solutions containing 0.9% Sodium Chloride.

Conditions that may increase the risk of hypernatremia, fluid overload and edema (central and peripheral), include patients with pre-eclampsia, primary hyperaldosteronism and secondary hyperaldosteronism associated with, for example, hypertension, congestive heart failure, severe renal insufficiency, liver disease (including cirrhosis), and renal disease (including renal artery stenosis, nephrosclerosis).

Medications such as corticosteroids or corticotropin, may increase the risk of sodium and fluid retention.

Avoid in patients with or at risk for hypernatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hypernatremia is potentially dangerous with risk of serious neurologic complications. Excessively rapid correction of hypernatremia is also associated with a risk for serious neurologic complications such as osmotic demyelination syndrome (ODS) with risk of seizures and cerebral edema.

5.6 Fluid Overload

Depending on the volume and rate of infusion, the patient's underlying clinical condition and capability to metabolize dextrose, intravenous administration of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema.

Avoid Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor fluid balance, electrolyte concentrations, and acid-base balance as needed and especially during prolonged use.

5.7 Refeeding Syndrome

Refeeding severely undernourished patients may result in the refeeding syndrome that is characterized by the shift of potassium, phosphorus, and magnesium intracellularly as the patient becomes anabolic. Thiamine deficiency and fluid retention may also develop. To prevent these complications, monitor severely undernourished patients and slowly increasing nutrient intake.

6 ADVERSE REACTIONS

The following adverse reactions associated with the use of Potassium Chloride in Dextrose and Sodium Chloride Injection were identified in postmarketing reports. Because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

The following clinically significant adverse reactions are described elsewhere in the labeling:

- *Hypersensitivity Reactions*: anaphylaxis, rash and pruritus *[see Warnings and Precautions (5.1)]*.
- *Metabolism and Nutrition Disorders*: hyperkalemia *[see Warnings and Precautions (5.2)]*, hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*, hyponatremia and hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*, fluid overload *[see Warnings and Precautions (5.6)]* and refeeding syndrome *[see Warnings and Precautions (5.2)]*. Hypernatremia and hyperchloremia acidosis *[see Warnings and Precautions (5.5)]* have been observed in solutions containing 0.9% sodium chloride.
- *Cardiac Disorder*: cardiac arrest as a manifestation of rapid intravenous administration and/or of hyperkalemia *[see Warnings and Precautions (5.2)]*.
- *Infusion Site Reactions*: injection site vesicles, extravasation, venous thrombosis or phlebitis, infusion site pain.

7 DRUG INTERACTIONS

7.1 Other Products that Cause Hyperkalemia

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated concurrently or recently with other products that can cause hyperkalemia or increase the risk of hyperkalemia (e.g., potassium-sparing diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers) increases the risk of severe and potentially fatal hyperkalemia, in particular in the presence of other risk factors for hyperkalemia *[see Warnings and Precautions (5.2)]*. Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations.

7.2 Lithium

Renal sodium and lithium clearance may be increased during administration of Potassium Chloride in Dextrose and Sodium Chloride Injection resulting in decreased serum lithium concentrations. Monitor serum lithium concentrations during concomitant use.

7.3 Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance

Potassium Chloride in Dextrose and Sodium Chloride Injection can affect glycemic control, vasopressin and fluid and/or electrolyte balance *[see Warnings and Precautions (5.3, 5.4, 5.5, 5.6)]*. Monitor blood glucose concentrations, fluid balance, serum electrolyte concentrations and acid-base balance when using Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated with other substances that affect glycemic control, vasopressin or fluid and/or electrolyte balance.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Appropriate administration of Potassium Chloride in Dextrose Sodium Chloride Injection during pregnancy is not expected to cause adverse developmental outcomes, including congenital malformations. Animal reproduction studies have not been conducted with Potassium Chloride in Dextrose Sodium Chloride Injection.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

8.2 Lactation

Risk Summary

Sodium and potassium are present in human breast milk. There are no data on the effects of Potassium Chloride in Sodium Chloride and Glucose on a breastfed infant or the effects on milk production.

The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for Potassium Chloride in Dextrose and Sodium Chloride Injection and any potential adverse effects on the breastfed infant from Potassium

Chloride in Dextrose and Sodium Chloride Injection or from the underlying maternal condition.

8.4 Pediatric Use

The safety profile of Potassium Chloride in Dextrose and Sodium Chloride Injection in pediatric patients is similar to adults.

Neonates, especially premature infants with low birth weight, are at increased risk of developing hypo- or hyperglycemia and therefore need close monitoring during treatment with intravenous glucose solutions to ensure adequate glycemic control in order to avoid potential long term adverse effects.

Closely monitor plasma electrolyte concentrations in pediatric patients who may have impaired ability to regulate fluids and electrolytes. In very low birth weight infants, excessive or rapid administration of Potassium Chloride in Dextrose and Sodium Chloride Injection may result in increased serum osmolality and risk of intracerebral hemorrhage.

Children (including neonates and older children) are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy.

8.5 Geriatric Use

Clinical studies of Potassium Chloride in Dextrose and Sodium Chloride Injection did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

Elderly patients are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*. Potassium Chloride in Dextrose and Sodium Chloride Injection is known to be substantially excreted by the kidney, and the risk of adverse reactions to this product may be greater in patients with impaired renal function *[see Warnings and Precautions (5.2)]*.

Dose selection for an elderly patient should be cautious, starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

8.6 Renal Impairment

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with renal impairment may result in hyponatremia, hyperkalemia and/or fluid

overload. Monitor patients with renal impairment for development of these adverse reactions *[see Warnings and Precautions (5.2, 5.5, 5.6)]*.

10 OVERDOSAGE

An increased infusion rate of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause:

Hyperkalemia

- Manifestations of hyperkalemia may include:
    - disturbances in cardiac conduction and arrhythmias, including bradycardia, heart block, asystole, ventricular tachycardia, ventricular fibrillation,
    - hypotension,
    - muscle weakness up to and including muscular and respiratory paralysis, paresthesia of extremities,
    - gastrointestinal symptoms (ileus, nausea, vomiting, abdominal pain)

    The presence of any ECG findings that are suspected to be caused by hyperkalemia should be considered a medical emergency.

    If hyperkalemia is present or suspected, discontinue the infusion immediately and institute close ECG, laboratory and other monitoring and, as necessary, corrective therapy to reduce serum potassium concentrations *[see Warnings and Precautions (5.2)]*.

Other Electrolyte and Fluid Disorders

- hyponatremia, manifestations may include seizures, coma, cerebral edema and death).
- hypernatremia, especially in patients with severe renal impairment.
- fluid overload (which can lead to central and/or peripheral edema).
- Hyperglycemia, hyperosmolality, and adverse effects on water and electrolyte balance, and corresponding complications, which can be fatal *[see Warnings and Precautions (5.3, 5.6)]*.

    Interventions include discontinuation of the infusion, dose reduction, monitoring of fluid balance, electrolyte concentrations and acid-base balance and institution of appropriate corrective measures such as administration of exogenous insulin.

11 DESCRIPTION

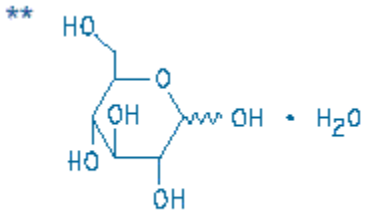
Potassium Chloride in Dextrose and Sodium Chloride Injection, USP is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment and caloric supply in a single-dose container for intravenous administration. It contains no antimicrobial agents. Composition, osmolarity, pH, ionic concentration and caloric content are shown in Table 1.

Table 1

mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
		** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP										
20 mEq/L	1000	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
10 mEq/500 mL	500	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP										
10 mEq/500 mL	500	50	3.3	**1.5**	405	4.5 (3.5 to 6.5)	56	20	76	170
Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP										
10 mEq/L	1000	50	4.5	**0.75**	426	4.5 (3.5 to 6.5)	77	10	87	170
20 mEq/L	1000	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
10 mEq/500 mL	500	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
30 mEq/L	1000	50	4.5	**2.24**	466	4.5 (3.5 to 6.5)	77	30	107	170
40 mEq/L	1000	50	4.5	**3**	487	4.5 (3.5 to 6.5)	77	40	117	170
Potassium Chloride in 5% Dextrose and										
20 mEq/L	1000	50	9	**1.5**	601	4.5 (3.5 to 6.5)	154	20	174	170

Table 1	mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
			** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
0.9% Sodium Chloride Injection, USP	40 mEq/L	1000	50	9	**3**	641	4.5 (3.5 to 6.5)	154	40	194	170

*Normal physiologic osmolarity range is approximately 280 to 310 mOsmol/L.



D-Glucose monohydrate

Dextrose is derived from corn.

The VIAFLEX Plus plastic container is fabricated from a specially formulated polyvinyl chloride (PL 146 Plastic). VIAFLEX Plus on the container indicates the presence of a drug additive in a drug vehicle. The VIAFLEX Plus plastic container system utilizes the same container as the VIAFLEX plastic container system. The amount of water that can permeate from inside the container into the overwrap is insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexyl phthalate (DEHP), up to 5 parts per million. However, the safety of the plastic has been confirmed in tests in animals according to USP biological tests for plastic containers as well as by tissue culture toxicity studies.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Potassium Chloride in Dextrose and Sodium Chloride Injection is a source of water, electrolytes and calories. It is capable of inducing diuresis depending on the clinical condition of the patient.

16 HOW SUPPLIED/STORAGE AND HANDLING

Potassium Chloride in Dextrose and Sodium Chloride Injection, are clear solutions in 500 mL and 1000 mL single-dose, flexible containers available as follows:

Code	Size (mL)	NDC	mEq Potassium	Product Name
2B1614	1000	0338-0663-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP
2B1613	500	0338-0663-03	10 mEq	
2B1473	500	0338-0603-03	10 mEq	Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP
2B1644	1000	0338-0669-04	10 mEq	Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP
2B1654	1000	0338-0671-04	20 mEq	
2B1653	500	0338-0671-03	10 mEq	
2B1664	1000	0338-0673-04	30 mEq	
2B1674	1000	0338-0675-04	40 mEq	
2B2434	1000	0338-0803-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.9% Sodium Chloride Injection, USP
2B2454	1000	0338-0807-04	40 mEq	

Storage: Avoid excessive heat. Store at room temperature (25°C); brief exposure up to 40°C does not adversely affect the product.

17 PATIENT COUNSELING INFORMATION

Inform patients, caregivers or home healthcare providers of the following risks of Potassium Chloride in Dextrose and Sodium Chloride Injection:

- Hypersensitivity Reactions *[see Warnings and Precautions (5.1)]*
- Hyperkalemia *[see Warnings and Precautions (5.2)]*
- Hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*
- Hyponatremia *[see Warnings and Precautions (5.4)]*
- Hypernatremia and hyperchloremia *[see Warnings and Precautions (5.5)]*

- Fluid overload *[see Warnings and Precautions (5.6)]*
- Refeeding syndrome *[see Warnings and Precautions (5.7)]*

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HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION safely and effectively. See full prescribing information for POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE INJECTION.

POTASSIUM CHLORIDE IN DEXTROSE AND SODIUM CHLORIDE injection, for intravenous use
Initial U.S. Approval: 1979

----------RECENT MAJOR CHANGES----------

Contraindications (4)	02/2019
Warnings and Precautions (5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7)	02/2019

----------INDICATIONS AND USAGE----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories. (1)

----------DOSAGE AND ADMINISTRATION----------
- Only for intravenous infusion. (2.1, 5.2)
- See full prescribing information for information on preparation, administration, dosing considerations and instructions for use. (2.1, 2.2, 2.3)

----------DOSAGE FORMS AND STRENGTHS----------
Potassium Chloride in Dextrose and Sodium Chloride Injection is available in multiple strengths. See full prescribing information for detailed description of each formulation. (3)

----------CONTRAINDICATIONS----------
- Known hypersensitivity to potassium chloride, dextrose, or sodium chloride (4, 5.1)
- Clinically significant hyperkalemia (4, 5.2)
- Clinically significant hyperglycemia (4, 5.3)

----------WARNINGS AND PRECAUTIONS----------
- Hypersensitivity Reactions: monitor for signs and symptoms and discontinue infusion if reactions occur. (5.1)
- Hyperkalemia: May result in cardiac arrhythmias. Avoid use in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs. (5.2)
- Hyperglycemia or Hyperosmolar Hyperglycemic State: Monitor blood glucose and administer insulin as needed. (5.3, 8.4)
- Hyponatremia, Hypernatremia and Hyperchloremia: Avoid in patients with or at risk for hypo-/hypernatremia. If use cannot be avoided, monitor serum sodium concentrations. (5.4, 5.5, 8.4)
- Fluid Overload: Avoid in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor daily fluid balance and electrolyte, concentrations and acid-base balance, as needed and especially during prolonged use. (5.6)
- Refeeding Syndrome: Monitor severely undernourished patients and slowly increase nutrient intake. (5.7)

----------ADVERSE REACTIONS----------
Adverse reactions include electrolyte imbalances, hyperglycemia, and hypervolemia and injection site reactions. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Baxter Healthcare at 1-866-888-2472 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

---------- DRUG INTERACTIONS ----------
- Other Products that Cause Hyperkalemia: Avoid use in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations. (7.1)
- Lithium: Decreased lithium concentrations with concomitant use; monitor serum lithium concentrations. (7.2)
- Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance: Monitor blood glucose concentrations, fluid balance serum electrolyte concentrations and acid-base balance. (7.3)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 02/2019

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Potassium Chloride in Dextrose and Sodium Chloride Injection is indicated as a source of water, electrolytes and calories.

2 DOSAGE AND ADMINISTRATION

2.1 Important Administration Instructions

- Potassium Chloride in Dextrose and Sodium Chloride Injection is only for intravenous infusion *[see Warnings and Precautions (5.2)]*.
- The osmolarity of Potassium Chloride in Dextrose and Sodium Chloride Injection, ranges from 361 to 641 mOsmol/L (calc). Peripheral administration is generally acceptable; however; consider central vein administration if there is peripheral vein irritation, phlebitis, and/or associated pain especially with higher potassium concentrations.
- Do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection simultaneously with blood products through the same administration set because of the possibility of pseudoagglutination or hemolysis.
- To prevent air embolism, use a non-vented infusion set or close the vent on a vented set, avoid multiple connections, do not connect flexible containers in series, fully evacuate residual gas in the container prior to administration, do not pressurize the flexible container to increase flow rates, and if administration is controlled by a pumping device, turn off pump before the container runs dry.
- Prior to infusion, visually inspect the solution for particulate matter. The solution should be clear and there should be no precipitates. Do not administer unless solution is clear and container is undamaged.
- Use of a final filter is recommended during administration of parenteral solutions, where possible.

2.2 Recommended Dosage

The choice of the specific potassium chloride, sodium chloride, and dextrose concentrations, rate and volume depends on the age, weight, clinical and metabolic conditions of the patient and concomitant therapy. Electrolyte supplementation may be indicated according to the clinical needs of the patient.

The administration rate should be governed, especially for premature infants with low birth weight, during the first few days of therapy, by the patient's tolerance to dextrose. Increase the infusion rate gradually as indicated by frequent monitoring of blood glucose concentrations *[see Warnings and Precautions (5.1), Use in Specific Populations (8.4)]*.

2.3 Instructions for Use

To Open

- Do not remove container from overwrap until ready to use.
- Tear overwrap down side at slit and remove solution container.
- Visually inspect the container. Some opacity of the plastic due to moisture absorption during the sterilization process may be observed. This is normal and does not affect the solution quality or safety. The opacity will diminish gradually. Evaluate the following:
    - If the outlet port protector is damaged, detached, or not present, discard container.
    - Check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.
    - Check for minute leaks by squeezing inner bag firmly. If leaks are found, discard container.

Preparation for Administration

1. Suspend container from eyelet support.
2. Remove protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

To Add Medication

- Additives may be incompatible. Complete information is not available. Do not use additives known or determined to be incompatible.
- Consult with pharmacist, if available. If, in the informed judgment of the healthcare provider, it is deemed advisable to introduce additives, use aseptic technique.
- When introducing additives, consult the instructions for use of the medication to be added and other relevant literature.

- Before adding a substance or medication, verify that it is soluble and/or stable in Potassium Chloride in Dextrose and Sodium Chloride Injection and that the pH range of Potassium Chloride in Dextrose and Sodium Chloride Injection is appropriate.

To Add Medication Before Solution Administration

1. Prepare medication site.
2. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
3. Mix solution and medication thoroughly. For high density medication such as potassium chloride, squeeze ports while ports are upright and mix thoroughly.
4. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals.

To Add Medication During Solution Administration

1. Close clamp on the set.
2. Prepare medication site.
3. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
4. Remove container from IV pole and/or turn to an upright position.
5. Evacuate both ports by squeezing them while container is in the upright position.
6. Mix solution and medication thoroughly.
7. After addition, check to ensure the solution is clear and there are no precipitates. Discard if there is a color change and/or the appearance of precipitates, insoluble complexes or crystals, do not use.

<u>Storage</u>

- Use promptly; do not store solutions containing additives.
- Single-dose container.
- Discard any unused portion.

3 DOSAGE FORMS AND STRENGTHS

Potassium Chloride in Dextrose and Sodium Chloride Injection, USP are clear solutions in 500 mL and 1000 mL single-dose, flexible containers:

500 mL flexible container

- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.33% Sodium Chloride
- 10 mEq/500 mL Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride

1000 mL flexible container

- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.2% Sodium Chloride
- 10 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 30 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.45% Sodium Chloride
- 20 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride
- 40 mEq/L Potassium Chloride, 5% Dextrose and 0.9% Sodium Chloride

4 CONTRAINDICATIONS

Potassium Chloride in Dextrose and Sodium Chloride Injection is contraindicated in patients with:

- known hypersensitivity to potassium chloride, dextrose and/or sodium chloride *[see Warnings and Precautions 5.1)]*
- clinically significant hyperkalemia *[see Warnings and Precautions (5.2)]*
- clinically significant hyperglycemia *[see Warnings and Precautions (5.3)]*

5 WARNINGS AND PRECAUTIONS

5.1 Hypersensitivity Reactions

Hypersensitivity and infusion reactions, including anaphylaxis, have been reported with Potassium Chloride in Dextrose and Sodium Chloride Injection *[see Adverse Reactions (6)]*. Stop the infusion immediately if signs or symptoms of a hypersensitivity or infusion reaction develops *[see Contraindications (4)]*. Appropriate therapeutic countermeasures must be instituted as clinically indicated.

5.2 Hyperkalemia

Potassium-containing solutions, including Potassium Chloride in Dextrose and Sodium Chloride Injection may increase the risk of hyperkalemia. Hyperkalemia can be

asymptomatic and manifest only by increased serum potassium concentrations and/or characteristic electrocardiographic (ECG) changes. Cardiac arrhythmias, some fatal, can develop at any time during hyperkalemia.

To avoid life threatening hyperkalemia, do not administer Potassium Chloride in Dextrose and Sodium Chloride Injection as an intravenous push (i.e., intravenous injection manually with a syringe connected to the intravenous access, without quantitative infusion device *[see Dosage and Administration (2.1)]*.

Patients at increased risk of developing hyperkalemia and cardiac arrhythmias include those:

- with severe renal impairment, acute dehydration, extensive tissue injury or burns, and certain cardiac disorders such as congestive heart failure or AV block (especially if they receive digoxin).
- with hyperosmolality, acidosis, or undergoing correction of alkalosis (conditions associated with a shift of potassium from intracellular to extracellular space).
- treated concurrently or recently with agents or products that can cause or increase the risk of hyperkalemia *[see Drug Interactions (7.1)]*.

Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with, or at risk for, hyperkalemia. If use cannot be avoided, use a product with a low amount of potassium chloride, infuse slowly and monitor serum potassium concentrations and ECGs.

5.3 Hyperglycemia and Hyperosmolar Hyperglycemic State

The use of dextrose infusions in patients with impaired glucose tolerance may worsen hyperglycemia. Administration of dextrose at a rate exceeding the patient's utilization rate may lead to hyperglycemia, coma, and death.

Hyperglycemia is associated with an increase in serum osmolality, resulting in osmotic diuresis, dehydration and electrolyte losses *[see Warnings and Precautions (5.6)]*. Patients with underlying central nervous system disease and renal impairment who receive dextrose infusions, may be at greater risk of developing hyperosmolar hyperglycemic state.

Monitor blood glucose concentrations and treat hyperglycemia to maintain concentrations within normal limits while administering Potassium Chloride in Dextrose and Sodium

Chloride Injection. Insulin may be administered or adjusted to maintain optimal blood glucose concentrations.

5.4 Hyponatremia

Potassium Chloride in Dextrose and Sodium Chloride Injection is a hypertonic solution *[see Description, Table 1 (11)]*. In the body, however, glucose containing fluids can become extremely physiologically hypotonic due to rapid glucose metabolization. Monitoring of serum sodium is particularly important for hypotonic fluids.

Depending on the tonicity of the solution, the volume and rate of infusion, and depending on a patient's underlying clinical condition and capability to metabolize glucose, intravenous administration of glucose can cause electrolyte disturbances, most importantly hypo- or hyperosmotic hyponatremia.

The risk for hyponatremia is increased, in pediatric patients, elderly patients, postoperative patients, those with psychogenic polydipsia and in patients treated with medications that increase the risk of hyponatremia (such as certain diuretic, antiepileptic and psychotropic medications). Close clinical monitoring may be warranted.

Acute hyponatremia can lead to acute hyponatremic encephalopathy characterized by headache, nausea, seizures, lethargy and vomiting. Patients with brain edema are at particular risk of severe, irreversible and life-threatening brain injury. Patients at increased risk for developing complications of hyponatremia, such as hyponatremic encephalopathy include pediatric patients; women, in particular, premenopausal women; patients with hypoxemia; and in patients with underlying central nervous system disease *[see Use in Specific Populations (8.4, 8.5)]*.

Avoid solutions with less than 0.9% Sodium Chloride in patients with or at risk for hyponatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hyponatremia is potentially dangerous with risk of serious neurologic complications such as osmotic demyelination syndrome with risk of seizures and cerebral edema. To avoid complications, monitor serum sodium and chloride concentrations, fluid status, acid-base balance, and signs of neurologic complications.

High volume infusion must be used with close monitoring in patients with cardiac or pulmonary failure, and in patients with non-osmotic vasopressin release (including SIADH), due to the risk of hospital-acquired hyponatremia.

5.5 Hypernatremia and Hyperchloremia

Electrolyte imbalances such as hypernatremia and hyperchloremia, leading to metabolic acidosis may occur with solutions containing 0.9% Sodium Chloride.

Conditions that may increase the risk of hypernatremia, fluid overload and edema (central and peripheral), include patients with pre-eclampsia, primary hyperaldosteronism and secondary hyperaldosteronism associated with, for example, hypertension, congestive heart failure, severe renal insufficiency, liver disease (including cirrhosis), and renal disease (including renal artery stenosis, nephrosclerosis).

Medications such as corticosteroids or corticotropin, may increase the risk of sodium and fluid retention.

Avoid in patients with or at risk for hypernatremia. If use cannot be avoided, monitor serum sodium concentrations.

Rapid correction of hypernatremia is potentially dangerous with risk of serious neurologic complications. Excessively rapid correction of hypernatremia is also associated with a risk for serious neurologic complications such as osmotic demyelination syndrome (ODS) with risk of seizures and cerebral edema.

5.6 Fluid Overload

Depending on the volume and rate of infusion, the patient's underlying clinical condition and capability to metabolize dextrose, intravenous administration of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states or pulmonary edema.

Avoid Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with or at risk for fluid and/or solute overloading. If use cannot be avoided, monitor fluid balance, electrolyte concentrations, and acid-base balance as needed and especially during prolonged use.

5.7 Refeeding Syndrome

Refeeding severely undernourished patients may result in the refeeding syndrome that is characterized by the shift of potassium, phosphorus, and magnesium intracellularly as the patient becomes anabolic. Thiamine deficiency and fluid retention may also develop. To prevent these complications, monitor severely undernourished patients and slowly increasing nutrient intake.

6 ADVERSE REACTIONS

The following adverse reactions associated with the use of Potassium Chloride in Dextrose and Sodium Chloride Injection were identified in postmarketing reports. Because these reactions were reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

The following clinically significant adverse reactions are described elsewhere in the labeling:

- *Hypersensitivity Reactions*: anaphylaxis, rash and pruritus *[see Warnings and Precautions (5.1)]*.
- *Metabolism and Nutrition Disorders*: hyperkalemia *[see Warnings and Precautions (5.2)]*, hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*, hyponatremia and hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*, fluid overload *[see Warnings and Precautions (5.6)]* and refeeding syndrome *[see Warnings and Precautions (5.2)]*. Hypernatremia and hyperchloremia acidosis *[see Warnings and Precautions (5.5)]* have been observed in solutions containing 0.9% sodium chloride.
- *Cardiac Disorder*: cardiac arrest as a manifestation of rapid intravenous administration and/or of hyperkalemia *[see Warnings and Precautions (5.2)]*.
- *Infusion Site Reactions*: injection site vesicles, extravasation, venous thrombosis or phlebitis, infusion site pain.

7 DRUG INTERACTIONS

7.1 Other Products that Cause Hyperkalemia

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated concurrently or recently with other products that can cause hyperkalemia or increase the risk of hyperkalemia (e.g., potassium-sparing diuretics, angiotensin-converting enzyme inhibitors, angiotensin receptor blockers) increases the risk of severe and potentially fatal hyperkalemia, in particular in the presence of other risk factors for hyperkalemia *[see Warnings and Precautions (5.2)]*. Avoid use of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients receiving such products. If use cannot be avoided, monitor serum potassium concentrations.

7.2 Lithium

Renal sodium and lithium clearance may be increased during administration of Potassium Chloride in Dextrose and Sodium Chloride Injection resulting in decreased serum lithium concentrations. Monitor serum lithium concentrations during concomitant use.

7.3 Other Products that Affect Glycemic Control, Vasopressin or Fluid and/or Electrolyte Balance

Potassium Chloride in Dextrose and Sodium Chloride Injection can affect glycemic control, vasopressin and fluid and/or electrolyte balance *[see Warnings and Precautions (5.3, 5.4, 5.5, 5.6)]*. Monitor blood glucose concentrations, fluid balance, serum electrolyte concentrations and acid-base balance when using Potassium Chloride in Dextrose and Sodium Chloride Injection in patients treated with other substances that affect glycemic control, vasopressin or fluid and/or electrolyte balance.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Appropriate administration of Potassium Chloride in Dextrose Sodium Chloride Injection during pregnancy is not expected to cause adverse developmental outcomes, including congenital malformations. Animal reproduction studies have not been conducted with Potassium Chloride in Dextrose Sodium Chloride Injection.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

8.2 Lactation

Risk Summary

Sodium and potassium are present in human breast milk. There are no data on the effects of Potassium Chloride in Sodium Chloride and Glucose on a breastfed infant or the effects on milk production.

The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for Potassium Chloride in Dextrose and Sodium Chloride Injection and any potential adverse effects on the breastfed infant from Potassium

Chloride in Dextrose and Sodium Chloride Injection or from the underlying maternal condition.

8.4 Pediatric Use

The safety profile of Potassium Chloride in Dextrose and Sodium Chloride Injection in pediatric patients is similar to adults.

Neonates, especially premature infants with low birth weight, are at increased risk of developing hypo- or hyperglycemia and therefore need close monitoring during treatment with intravenous glucose solutions to ensure adequate glycemic control in order to avoid potential long term adverse effects.

Closely monitor plasma electrolyte concentrations in pediatric patients who may have impaired ability to regulate fluids and electrolytes. In very low birth weight infants, excessive or rapid administration of Potassium Chloride in Dextrose and Sodium Chloride Injection may result in increased serum osmolality and risk of intracerebral hemorrhage.

Children (including neonates and older children) are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy.

8.5 Geriatric Use

Clinical studies of Potassium Chloride in Dextrose and Sodium Chloride Injection did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects.

Elderly patients are at increased risk of developing hyponatremia as well as for developing hyponatremic encephalopathy *[see Warnings and Precautions (5.4)]*. Potassium Chloride in Dextrose and Sodium Chloride Injection is known to be substantially excreted by the kidney, and the risk of adverse reactions to this product may be greater in patients with impaired renal function *[see Warnings and Precautions (5.2)]*.

Dose selection for an elderly patient should be cautious, starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

8.6 Renal Impairment

Administration of Potassium Chloride in Dextrose and Sodium Chloride Injection in patients with renal impairment may result in hyponatremia, hyperkalemia and/or fluid

overload. Monitor patients with renal impairment for development of these adverse reactions *[see Warnings and Precautions (5.2, 5.5, 5.6)]*.

10 OVERDOSAGE

An increased infusion rate of Potassium Chloride in Dextrose and Sodium Chloride Injection can cause:

Hyperkalemia

- Manifestations of hyperkalemia may include:
    - disturbances in cardiac conduction and arrhythmias, including bradycardia, heart block, asystole, ventricular tachycardia, ventricular fibrillation,
    - hypotension,
    - muscle weakness up to and including muscular and respiratory paralysis, paresthesia of extremities,
    - gastrointestinal symptoms (ileus, nausea, vomiting, abdominal pain)

    The presence of any ECG findings that are suspected to be caused by hyperkalemia should be considered a medical emergency.

    If hyperkalemia is present or suspected, discontinue the infusion immediately and institute close ECG, laboratory and other monitoring and, as necessary, corrective therapy to reduce serum potassium concentrations *[see Warnings and Precautions (5.2)]*.

Other Electrolyte and Fluid Disorders

- hyponatremia, manifestations may include seizures, coma, cerebral edema and death).
- hypernatremia, especially in patients with severe renal impairment.
- fluid overload (which can lead to central and/or peripheral edema).
- Hyperglycemia, hyperosmolality, and adverse effects on water and electrolyte balance, and corresponding complications, which can be fatal *[see Warnings and Precautions (5.3, 5.6)]*.

    Interventions include discontinuation of the infusion, dose reduction, monitoring of fluid balance, electrolyte concentrations and acid-base balance and institution of appropriate corrective measures such as administration of exogenous insulin.

11 DESCRIPTION

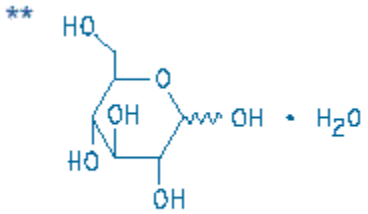
Potassium Chloride in Dextrose and Sodium Chloride Injection, USP is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment and caloric supply in a single-dose container for intravenous administration. It contains no antimicrobial agents. Composition, osmolarity, pH, ionic concentration and caloric content are shown in Table 1.

Table 1

mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
		** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP										
20 mEq/L	1000	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
10 mEq/500 mL	500	50	2	**1.5**	361	4.5 (3.5 to 6.5)	34	20	54	170
Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP										
10 mEq/500 mL	500	50	3.3	**1.5**	405	4.5 (3.5 to 6.5)	56	20	76	170
Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP										
10 mEq/L	1000	50	4.5	**0.75**	426	4.5 (3.5 to 6.5)	77	10	87	170
20 mEq/L	1000	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
10 mEq/500 mL	500	50	4.5	**1.5**	447	4.5 (3.5 to 6.5)	77	20	97	170
30 mEq/L	1000	50	4.5	**2.24**	466	4.5 (3.5 to 6.5)	77	30	107	170
40 mEq/L	1000	50	4.5	**3**	487	4.5 (3.5 to 6.5)	77	40	117	170
Potassium Chloride in 5% Dextrose and										
20 mEq/L	1000	50	9	**1.5**	601	4.5 (3.5 to 6.5)	154	20	174	170

Table 1	mEq Potassium/container size	Size (mL)	Composition (g/L)				pH	Ionic Concentration (mEq/L)			
			** Dextrose Hydrous, USP	Sodium Chloride, USP (NaCl)	Potassium Chloride, USP (KCl)	* Osmolarity (mOsmol/L) (calc.)		Sodium	Potassium	Chloride	Caloric Content (kCal/L)
0.9% Sodium Chloride Injection, USP	40 mEq/L	1000	50	9	**3**	641	4.5 (3.5 to 6.5)	154	40	194	170

*Normal physiologic osmolarity range is approximately 280 to 310 mOsmol/L.



D-Glucose monohydrate

Dextrose is derived from corn.

The VIAFLEX Plus plastic container is fabricated from a specially formulated polyvinyl chloride (PL 146 Plastic). VIAFLEX Plus on the container indicates the presence of a drug additive in a drug vehicle. The VIAFLEX Plus plastic container system utilizes the same container as the VIAFLEX plastic container system. The amount of water that can permeate from inside the container into the overwrap is insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexyl phthalate (DEHP), up to 5 parts per million. However, the safety of the plastic has been confirmed in tests in animals according to USP biological tests for plastic containers as well as by tissue culture toxicity studies.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Potassium Chloride in Dextrose and Sodium Chloride Injection is a source of water, electrolytes and calories. It is capable of inducing diuresis depending on the clinical condition of the patient.

16 HOW SUPPLIED/STORAGE AND HANDLING

Potassium Chloride in Dextrose and Sodium Chloride Injection, are clear solutions in 500 mL and 1000 mL single-dose, flexible containers available as follows:

Code	Size (mL)	NDC	mEq Potassium	Product Name
2B1614	1000	0338-0663-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.2% Sodium Chloride Injection, USP
2B1613	500	0338-0663-03	10 mEq	
2B1473	500	0338-0603-03	10 mEq	Potassium Chloride in 5% Dextrose and 0.33% Sodium Chloride Injection, USP
2B1644	1000	0338-0669-04	10 mEq	Potassium Chloride in 5% Dextrose and 0.45% Sodium Chloride Injection, USP
2B1654	1000	0338-0671-04	20 mEq	
2B1653	500	0338-0671-03	10 mEq	
2B1664	1000	0338-0673-04	30 mEq	
2B1674	1000	0338-0675-04	40 mEq	
2B2434	1000	0338-0803-04	20 mEq	Potassium Chloride in 5% Dextrose and 0.9% Sodium Chloride Injection, USP
2B2454	1000	0338-0807-04	40 mEq	

Storage: Avoid excessive heat. Store at room temperature (25°C); brief exposure up to 40°C does not adversely affect the product.

17 PATIENT COUNSELING INFORMATION

Inform patients, caregivers or home healthcare providers of the following risks of Potassium Chloride in Dextrose and Sodium Chloride Injection:

- Hypersensitivity Reactions *[see Warnings and Precautions (5.1)]*
- Hyperkalemia *[see Warnings and Precautions (5.2)]*
- Hyperglycemia and hyperosmolar hyperglycemic state *[see Warnings and Precautions (5.3)]*
- Hyponatremia *[see Warnings and Precautions (5.4)]*
- Hypernatremia and hyperchloremia *[see Warnings and Precautions (5.5)]*

- Fluid overload *[see Warnings and Precautions (5.6)]*
- Refeeding syndrome *[see Warnings and Precautions (5.7)]*

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