GLYCOPHOS - sodium glycolate injection, solution
Fresenius Kabi USA, LLC

Disclaimer: This drug has not been found by FDA to be safe and effective, and this labeling has not been approved by FDA. For further information about unapproved drugs, click here.

Glycophos

IMPORTANT PRESCRIBING INFORMATION

October 30, 2017

Subject: Temporary importation of Glycophos to address drug shortage issues

Dear Healthcare Professional,

Due to the critical shortage of phosphate injection in the U.S. market, Fresenius Kabi USA, LLC (Fresenius Kabi USA) is coordinating with the U.S. Food and Drug Administration (FDA) to provide an alternative treatment option during this critical shortage period. Fresenius Kabi USA has initiated temporary importation of a Glycophos™ 20 mL Injection Single Dose Plastic Vial into the U.S. market. This product is marketed in Europe, and is manufactured in the Fresenius Kabi Norway plant.

At this time, no other entity except Fresenius Kabi USA is authorized by the FDA to import or distribute Glycophos™ 20 mL Injection Single Dose Plastic Vial in the U.S. FDA has not approved Fresenius Kabi's Glycophos™ in the United States.

Effective immediately, and during this temporary period, Fresenius Kabi USA will offer the following presentation of phosphate injection:

Glycophos 20 mL Sterile Concentrate Single Dose Plastic Vial	
Chemical Name	Sodium Glycerophosphate
Phosphate Concentration	1 mMol per mL.
Type of Phosphate	Organic
Sodium	2 mEq per mL.
Fill Volume	20 mL.
Description	Single Dose Plastic Vial
Manufacturer	Fresenius Kabi Norge A/S

The vial and carton labels will display the text used when marketing the product in English speaking countries.

It is important to note that there are some key differences in the formulation and labeling between the current U.S. marketed phosphate injection products and Glycophos that you need to be aware of:

- **Glycophos** is an ***ORGANIC*** phosphate which is a different type of phosphate than the ***INORGANIC*** phosphate injection products currently marketed in the U.S.
- **Glycophos** contains 1 mMol of phosphate per 1 mL. of solution as compared to the phosphates currently marketed in the U.S. which contain 3 mMol of phosphate per 1 mL.
- The aluminum content of **Glycophos** is not more than 550 mcg/L.
- **Glycophos** does **NOT** contain a preservative and is intended for **single use.**
  - **Strict aseptic technique must always be maintained.**
  - **Glycophos is for administration to a single patient and is NOT intended for multiple use.**
- **Glycophos must be diluted before administration.**
- **Glycophos** is contraindicated in patients in a state of dehydration or with hypernatremia, hyperphosphatemia, severe renal insufficiency or shock.
- Any barcodes on **Glycophos** product will not be appropriately recognized by scanning systems used in the United States and should NOT be used. Institutions should manually input the product into their systems to confirm that barcode systems do not provide incorrect information when the product is scanned.
  - Alternative procedures should be followed to assure that the correct drug product is being prepared and administered to individual patients.
- The container closure is not made from natural rubber latex.
- The attached product comparison table highlights the key differences in strength, formulation and labeling between phosphate injection products currently available in the U.S. and **Glycophos**.

Refer to the Glycophos package insert for full prescribing information

This communication and product information is available on the Fresenius Kabi USA web site http://products.fresenius-kabi.us/product-323.html as well as on the FDA Drug Shortage web site. http://www.fda.gov/Drugs/DrugSafety/DrugShortages/default.htm.

To report adverse events or quality problems experienced with the use of this product, call Fresenius Kabi USA Vigilance or Medical Affairs at 1-800-551-7176, Monday – Friday, between the hours of 8 a.m. and 5 p.m. (CST), or e-mail adverse.events.USA@fresenius-kabi.com or productcomplaint.USA@fresenius-kabi.com.

Fresenius Kabi USA CONTACT NUMBERS: Please use the following contact numbers as appropriate:

Reason To Call	**Department**	**Number**
ADE Reporting	Vigilance Department	1-800-551-7176
Clinical/Technical Info. Or Product Complaint	Medical Affairs Department	
Product Availability & Ordering	Customer Service Department	1-888-386-1300

Adverse reactions or quality problems experienced with the use of this product may be reported to the FDA's MedWatch Adverse Event Reporting program either online, by regular mail or by fax.

- Complete and submit the report Online: www.fda.gov/medwatch/report.htm
- Regular Mail or Fax: Download form www.fda.gov/medwatch/getforms.htm or call 1-800-332-1088 to request a reporting form, then complete and return to the address on the pre-addressed form, or submit by fax to 1-800-FDA-0178 (1-800-332-0178).

Sincerely,
Melanie Power-Burns
Vice President, Quality and Compliance

Key Differences between U.S. Marketed Phosphate Injection Products and Glycophos

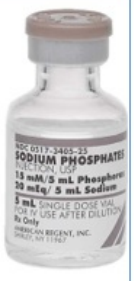
Current U.S. Marketed Inorganic Phosphate Injection, USP	**Glycophos**	**What does this mean to you, as a Healthcare Professional?**
Indications and contraindications: see package insert	Indications and contraindications: see package insert	Glycophos is indicated in adult patients and infants as a supplement in intravenous nutrition to meet the requirements of phosphate. Glycophos is contraindicated in patients in a state of dehydration or with hypernatremia, hyperphosphatemia, severe renal insufficiency or shock.
Sodium Phosphates and Potassium Phosphates contain 3 mMol of phosphate per mL.	Glycophos contains 1 mMol of phosphate per mL.	Glycophos contains 20 mLs in each plastic vial for a total concentration of 20 mMols of phosphate per vial. Glycophos must be diluted before administration.
Sodium Phosphates and Potassium Phosphates are **INORGANIC PHOSPHATE.**	Glycophos is an **ORGANIC PHOSPHATE**.	Organic phosphates tend to be more calcium compatible[1]. This means: • At higher concentrations, solutions of calcium and phosphate may exist together without precipitating into an insoluble salt complex. • In high pH solutions (admixtures above pH 6.0), organic phosphate is less likely to precipitate.
Barcode on container label	No unit of use barcode	Any barcodes on Glycophos product will not be appropriately recognized by scanning systems used in the United States and should NOT be used. Institutions should manually input the product into their systems and to confirm that barcode systems do not provide incorrect information when the product is scanned.
For questions regarding Glycophos in the United States, please contact Fresenius Kabi USA Medical Affairs at 1-800-551-7176 Option 4, Monday – Friday, between the hours of 8 a.m. and 5 p.m. (CST), or e-mail nutrition.medinfo.USA@fresenius-kabi.com.		

1. Data on file.

Comparison Table of U.S. Phosphate Injection Products to Glycophos

Product Name	Potassium Phosphates	Sodium Phosphates	Glycophos
Chemical Name	Potassium Phosphate	Sodium Phosphate	Sodium Glycerophosphate
Phosphate Concentration	3 mMol per mL	3 mMol per mL	1 mMol per mL
Type of Phosphate	Inorganic	Inorganic	Organic
Sodium	Does not contain	4 mEq per mL	2 mEq per mL
Potassium	4.4 mEq per mL	Does not contain	Does not contain
Fill Volume	5 mL, 15 mL, 50 mL	5 mL, 15 mL, 50 mL	20 mL
Description	Single Dose Vial	Single Dose Vial	Single Dose Plastic Vial
Companies	Fresenius Kabi USA, Pfizer	American Regent, Fresenius Kabi USA, Pfizer	Fresenius Kabi Norge A/S

Phosphate Label Product Comparison Table

	Potassium Phosphates (Inorganic)				Glycophos (Organic)
					
NDC#	0409-7295-01	63323-086-05	63323-086-15	63323-086-50	
Fill Volume	15 mL	5 mL	15 mL	50 mL	
Manufacturer	Pfizer	Fresenius Kabi USA	Fresenius Kabi USA	Fresenius Kabi USA	
	Sodium Phosphates (Inorganic)				
							
NDC#	00409-7391-72	63323-170-05	63323-170-15	00517-3405-25	00517-3415-25	00517-3450-25	63323-241-20
Fill Volume	15 mL	5 mL	15 mL	5 mL	15 mL	50 mL	20 mL
Manufacturer	Pfizer	Fresenius Kabi USA	Fresenius Kabi USA	American Regent	American Regent	American Regent	Fresenius Kabi Norge A/S

1. QUALITATIVE AND QUANTITATIVE COMPOSITION

1 ml of Glycophos contains

Active ingredient	Quantity
Sodium glycerophosphate pentahydrate	306.1 mg*

*Corresponds to 216 mg sodium glycerophosphate

The active ingredient in 1 ml of Glycophos correspond to

Phosphate 1 mmol

Sodium 2 mmol

For excipients, see 5.1

PRODUCT PROPERTIES

- Osmolality: 2760 mosm/kg water
- pH: 7.4

2. PHARMACEUTICAL FORM

Concentrate for solution for infusion.

3. CLINICAL PARTICULARS

3.1 Therapeutic indications

Glycophos is indicated in adult patients and infants as a supplement in intravenous nutrition to meet the requirements of phosphate.

3.2 Posology and method of administration

Glycophos must not be given undiluted.

Adults:

The recommended dosage is individual. The recommended daily dosage of phosphate during intravenous nutrition would normally be 10-20 mmol. This can be met by using 10-20 ml of Glycophos added to the infusion solution or to the admixture for which compatibility has been proved.

Infants:

The recommended dosage is individual. The recommended dose for infants and neonates is 1.0-1.5 mmol/Kg body weight/day.

3.3 Contra-indications

Glycophos should not be given to patients in a state of dehydration or with hypernatraemia, hyperphosphataemia, severe renal insufficiency or shock.

3.4 Special warnings and special precautions for use

Glycophos should be used with caution in patients with impaired renal function. The phosphate status of all patients should be monitored regularly.

Glycophos must not be given undiluted.

3.5 Interaction with other medicaments and other forms of interaction

No interactions with other drugs have been observed, but a moderate fall in serum phosphate can be seen during carbohydrate infusions.

3.6 Pregnancy and lactation

Animal reproduction studies or clinical investigations during pregnancy have not been carried out with Glycophos. However, the requirements of phosphate in a pregnant woman are slightly increased

compared to non-pregnant women.

No adverse events are to be expected when Glycophos is administered during pregnancy.

3.7 Effects on ability to drive and use machines

No effects on the ability to drive and use machines are to be expected.

3.8 Undesirable effects

No adverse effects related to glycerophosphate have been reported.

3.9 Overdose

No adverse effects of an overdose have been reported. Most patients in need of intravenous nutrition have an increased capacity to handle glycerophosphate. See also 3.3 "Contra-indications".

4. PHARMACOLOGICAL PROPERTIES

4.1 Pharmacodynamic properties

Glycerophosphate is a metabolic intermediate in fat metabolism and any pharmacodynamic effects other than maintaining the normal metabolic pathways are unlikely.

4.2 Pharmacokinetic properties

To become available it is necessary for the phosphate group to be hydrolysed from the glycerophosphate molecule. The hydrolysis occurs maximally at a plasma concentration of >0.7 mmol/l. Assuming that all hydrolysis of glycerophosphate takes place in plasma, about 12-15 mmol of sodium glycerophosphate will be hydrolysed each day in individuals with normal serum alkaline phosphatase.

No pharmacokinetical data is available for infants, however with the recommended dosage hyperphosphataemia is unlikely.

4.3 Preclinical safety data

Preclinical safety studies on Glycophos demonstrated good tolerance.

5. PHARMACEUTICAL PARTICULARS

5.1 List of excipients

Hydrochloric acid

Water for Injections

5.2 Incompatibilities

Glycophos may only be added to or mixed with other medicinal products for which compatibility has been documented. See 5.6.

5.3 Shelf life

3 years

5.4 Special precautions for storage

Do not store above 25°C. Do not freeze.

5.5 Nature and contents of container

Polypropylene vial.

Pack size: 10 x 20 ml

5.6 Instructions for use/handling

Glycophos must not be given undiluted.

Compatibility

Additions should be made aseptically.

Up to 120 ml of Glycophos and 48 mmol of calcium (as $CaCl_2$) can be added to 1000 ml Vamin Glucose, Vamin 9 Electrolyte Free, Vamin 14, Vamin 14 Electrolyte Free, Vamin 18 Electrolyte Free and Vaminolact.

Up to 10 ml of Glycophos and 10 mmol of calcium (as $CaCl_2$) can be added to 1000 ml Glucose 50 mg/ml.

Up to 20 ml of Glycophos and 20 mmol of calcium (as $CaCl_2$) can be added to 1000 ml Glucose 200 mg/ml.

Up to 60 mmol of Glycophos and 24 mmol of calcium (as $CaCl_2$) can be added to 1000 ml Glucose 500 mg/ml.

Infusion time

The infusion time should not be less than 8 hours.

Stability

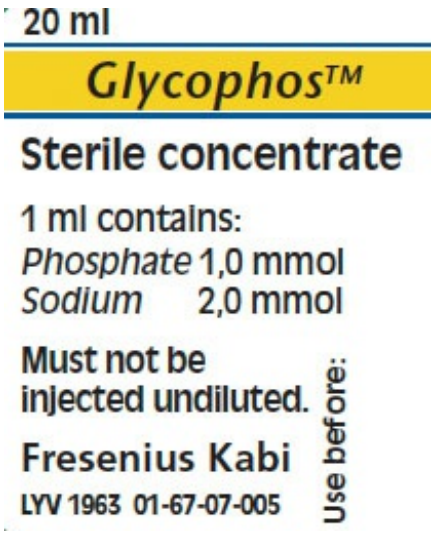
When additions are made to an infusion solution, the infusion should be completed within 24 hours from preparation to prevent microbiological contamination. The left over contents of opened bottles/vials/ampoules should be discarded and not kept for later use.

PACKAGE LABEL - PRINCIPAL DISPLAY PANEL - Glycophos 20 mL Vial Label

20 ml

Glycophos™

Sterile concentrate

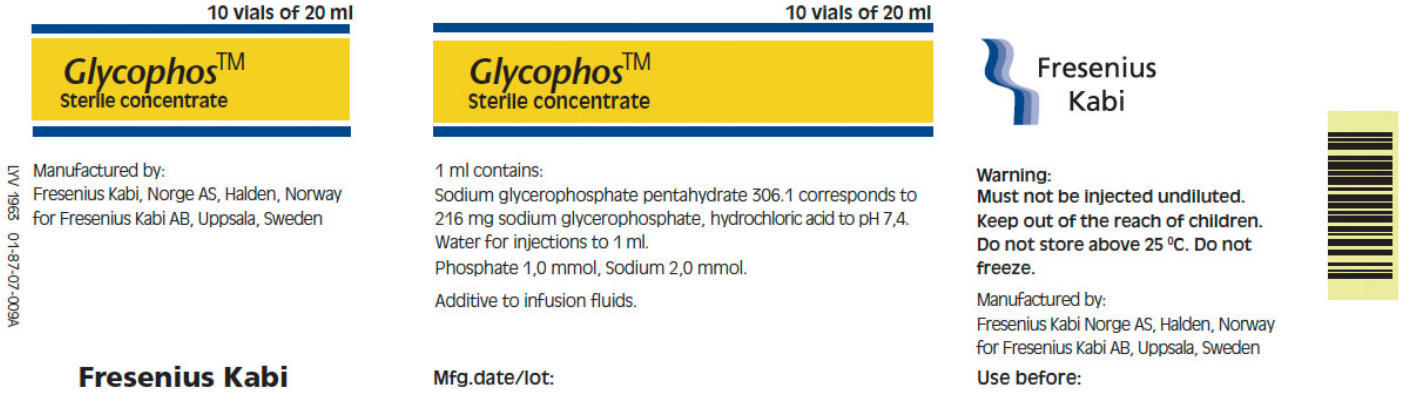


PACKAGE LABEL - PRINCIPAL DISPLAY PANEL - Glycophos 20 mL Vial Carton Panel

10 vials of 20 ml

Glycophos™

Sterile concentrate



GLYCOPHOS

sodium glycolate injection, solution

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:63323-241
Route of Administration	INTRAVENOUS		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
SODIUM GLYCEROPHOSPHATE ANHYDROUS (UNII: YP1H63LJ2K) (PHOSPHATE ION - UNII:NK08V8K8HR)	PHOSPHATE ION	216 mg in 1 mL

Inactive Ingredients	
Ingredient Name	**Strength**
HYDROCHLORIC ACID (UNII: QTT17582CB)	

Packaging				
#	**Item Code**	**Package Description**	**Marketing Start Date**	**Marketing End Date**
1	NDC:63323-241-20	10 in 1 CARTON	05/13/2013	
1		20 mL in 1 VIAL, PLASTIC; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
Unapproved drug for use in drug shortage		05/13/2013	

Labeler - Fresenius Kabi USA, LLC (608775388)

Establishment

Name	Address	ID/FEI	Business Operations
Fresenius Kabi Norge AS		731170932	MANUFACTURE(63323-241)

Revised: 1/2019 Fresenius Kabi USA, LLC