

# DEXTROSE, USP VS GLUCOSE

What Are The Differences?

Baxter Global Medical Affairs

Oct 2024

## TEMPORARY IMPORT PRODUCTS

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Glucose injection products have been authorized for temporary import into the US due to supply challenges stemming from Hurricane Helene.

They are **NOT DIRECTLY INTERCHANGEABLE** with FDA-approved Dextrose injection USP.

The active component is measured differently. Their concentrations are not interchangeable.

**Dextrose 50%  $\neq$  Glucose 50%**

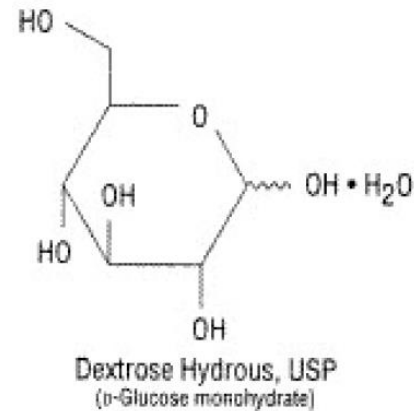
# DEXTROSE, USP

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In the US and Canada, labeling is expressed in percent Dextrose, USP.

It is measured as a hydrous form of dextrose, meaning dextrose coupled with a water molecule.

Chemically it is classified as “D-glucose monohydrate” ( $C_6H_{12}O_6 \cdot H_2O$ )



# GLUCOSE

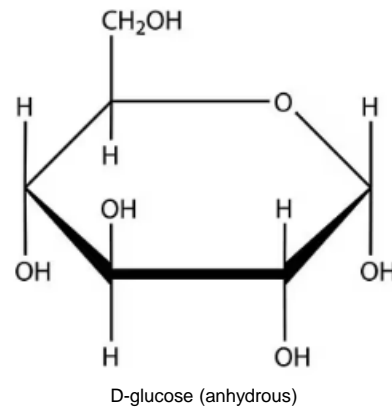
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In Europe, labeling is expressed in percent of glucose.

It is measured as the anhydrous form of glucose. (No water molecule, just glucose)

Glucose has a **HIGHER osmolality** content per gram than Dextrose, USP.

Glucose has a **HIGHER energy** content per gram than Dextrose, USP.



# DIFFERENCES OF DEXTROSE, USP VS IMPORTED GLUCOSE

The imported Glucose products are NOT directly interchangeable with Dextrose, USP.

Protocols, order entry, and compounding systems will need to be adjusted.

## Example:

Dextrose 50% and Glucose 50% are not equivalent on an energy content or osmolarity per mL basis.

Differences in key parameters:

	Dextrose 50%	Glucose 50%
mOsm / L	2520	2775
kcal / L	1710	2000
Specific Gravity	1.170	1.177

# LABELING EXAMPLES

## FDA-approved Product

LOT                      EXP

280296                      2000 mL  
NDC 0338-0719-06                      DIN 02014874

**DEXTROSE**                      1800  
Injection                      1600  
USP                      1400

**70%**                      1200

**Pharmacy Bulk Package  
Not For Direct Infusion  
Must Be Diluted**                      1000

**Rx Only**                      800

EACH 100 mL CONTAINS 70 g DEXTROSE HYDROUS USP IN WATER FOR INJECTION USP  
(W 4.8 (0.3 IN 4.8) SPECIFIC GRAVITY 1.34 (CALC)  
HYPERTONIC - OSMOLARITY 809 mOsm/L (E/N/E)  
STERILE, NONPYROGENIC  
CONTAINS NO MORE THAN 25 µg/L OF ALUMINUM  
COLOR VARIATION FROM LIGHT YELLOW TO AMBER IS NORMAL AND DOES NOT ALTER EFFICACY  
DOSAGE AND ADMINISTRATION: SEE PACKAGE INSERT  
CAUTION: DO NOT USE UNLESS SOLUTION IS CLEAR, CLOSURE IS INTACT AND CONTAINER IS UNDAMAGED  
CHECK FOR MINUTE LEAKS BY SQUEEZING FIRMLY  
IF LEAKS ARE FOUND DISCARD AS STERILITY MAY BE IMPAIRED  
AFFIX ACCOMPANYING LABEL FOR DATE AND TIME OF ENTRY  
WITHIN 4 HOURS AFTER INITIAL ENTRY DISCARD CONTAINER AND UNUSED CONTENTS  
STORE UNIT IN MOISTURE BARRIER OVERWRAP AT ROOM TEMPERATURE (25°C/77°F) UNTIL READY TO USE  
AVOID EXCESSIVE HEAT    PROTECT FROM FREEZING

VIAFLEX CONTAINER                      PL 146 PLASTIC                      600

**Baxter**                      400  
BAXTER HEALTHCARE CORPORATION                      DISTRIBUTED IN CANADA BY  
DEERFIELD, IL 60015 USA                      BAXTER CORPORATION  
MADE IN USA                      WISCONSIN DIVISION

BAXTER, PL 146 AND VIAFLEX ARE TRADEMARKS OF BAXTER INTERNATIONAL, INC.

**70%**                      200

## Imported Product

Code B0257                      3000 ml

**Baxter**

**Glucose 50% w/v  
Concentrate for solution for infusion**

VIAFLEX container                      Hypertonic  
Free from bacterial endotoxins

Formula per 1000 ml                      500 g                      **50%**  
Anhydrous Glucose  
Water for injections  
HCl for pH adjustment  
Megajoules (approx)                      8.4 (2000 kcal)

**Dilute before use – bulk source container  
Not for direct intravenous infusion**

For use under medical supervision  
For intravenous use following dilution under aseptic conditions  
Check compatibility with other admixture components before use  
Keep out of the sight and reach of children  
**Do not store above 25°C**  
Do not use unless solution is clear and container is undamaged  
Single use only Do not store partially used containers  
Discard any unused portion, waste materials and all associated devices  
Do not administer simultaneously with blood or, before or after, using the same transfusion equipment  
Discontinue infusion if adverse reaction occurs

**POM**

Baxter Healthcare Ltd                      PL 00116/0271  
Caxton Way Thetford                      TH-35-01-934①  
Norfolk IP24 3SE UK

LOT                      EXP

## NOTICE THE DIFFERENCE

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When using Glucose 50% instead of Dextrose 70%, you can expect to use:

- More glucose 50% volume to achieve the same amount of carbohydrate (as dextrose 70%)
- Potentially less SWFI because of the increased volume of Glucose 50% to achieve the same amount of carbohydrate

	Dextrose 70%	Glucose 50%
g / L	700	500
mOsm / L	3530	2775
kcal / L	2380	2000

# CUSTOMER ACTIONS

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Assess (now!) how your institution will incorporate these products

Evaluate the need for changes in the configuration of:

- Order entry systems / electronic medical record
- Compounding calculators (including any internal calculating tools)
- Automated compounding equipment
- Any other equipment or databases associated with compounding



For more information, scan this QR Code:



Or visit: <https://meded.baxter.com/hurricane-helene-clinical-resources>