



Product Guide for LudgerSep™ C Buffer x4 Concentrate

For preparation of LS-C solvent

(500mM Ammonium Formate, pH9)

(Ludger Product Code: LS-C-BUFFX4)

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Specifications for LudgerSep™ C Buffer x4

Application	For preparation of LS-C solvent (500 mM ammonium formate buffer pH 9, 20 % acetonitrile v/v) used in WAX (weak anion exchange) HPLC analysis of LudgerTag™ fluorophore and UV-chromophore labeled glycans.
Description	50mL of x4 LS-C buffer concentrate (2.0M ammonium formate buffer/solution pH9.0) in a square HDPE bottle with leak-proof cap.
Usage	<p>Dilute the whole contents of the bottle (50mL) with 150 mL HPLC grade water, then add 50 mL acetonitrile to make LS-C solvent (500 mM ammonium formate H 9, 20% acetonitrile v/v). The 50 mL of x4 buffer will make 250 mL of LS-C solvent.</p> <p>Use the LS-C solvent for glycan analysis with any of the following HPLC columns:</p> <ul style="list-style-type: none">• LudgerSep™ C3 column• Other weak anion exchange HPLC columns for glycan analysis
Storage	Store unopened bottle below 25 °C. As with any HPLC solvent we recommend preparation of immediately before use. Take care that the undiluted/diluted solvent is not exposed to excessive heat or sunlight as it contains volatile components. Stability times of the prepared solvent will vary according to your laboratory conditions. Long term storage of the prepared solvent, ie longer than 1 month, at room temperature, may result in evaporation of some of the volatile components in the solvent leading to a change in retention times.
Shipping	The product should be shipped at ambient temperature.
Handling:	Ensure that any glass, plasticware or solvents used are free of glycosidases and environmental carbohydrates. Use powder-free gloves for all sample handling procedures and avoid contamination with environmental carbohydrate.
Safety:	<p>Please read the Material Safety Data Sheets (MSDS's) for all chemicals used.</p> <p>All processes involving hazardous reagents should be performed using appropriate personal safety protection - eyeglasses, chemically resistant gloves (e.g. nitrile), etc. - and where appropriate in a laboratory fume cupboard</p>

For research use only. Not for human or drug use

Kit Contents

The kit contains the following materials and reagents:

Cat. #	Item	Quantity
LS-C-BUFX4	x4 LS-C buffer 2.0M ammonium formate solution pH 9	50mL

Additional Reagents and Equipment Required

Reagents

- Pure water (HPLC grade)
- Acetonitrile (HPLC grade)

Equipment

- 200 mL Measuring cylinder (or volumetric flask).
- Clean 250 mL glass storage bottle.

Introduction

LudgerSep™ C Buffer x4 concentrate has been designed for use with a LudgerSep™ C3 column (or other anion exchange column) for separation of charged glycans (e.g. sialylated, phosphorylated or sulphated glycans).

Instruction Protocol

1 Dilute the LS-C BUFFER x4 Buffer and Store

Transfer the x4 buffer to a 200mL glass measuring cylinder (or volumetric flask), add deionised water to make up to 200 mL mark (use 1 part of x4 buffer to 3 parts of water), transfer to a clean 250 mL glass storage bottle . Measure out 50mL of acetonitrile and add to the solution. Mix. Store the prepared LS-C solvent at 4°C until use.

2 Use the LS-C Solvent

Use the LS-C solvent for glycan WAX-HPLC as per the LudgerSep™ C3 column guide. We recommend the use of solvent line filters for all HPLC solvents.

The LudgerSep™ C3 column guide give an example gradient for WAX-HPLC of fluorescently labelled glycans. These conditions may also be used with the other glycan analysis HPLC columns listed in the Specifications section.

Warranties and Liabilities

Ludger warrants that the above product conforms to the attached analytical documents. Should the product fail for reasons other than through misuse Ludger will, at its option, replace free of charge or refund the purchase price. This warranty is exclusive and Ludger makes no other warrants, expressed or implied, including any implied conditions or warranties of merchantability or fitness for any particular purpose.

Ludger shall not be liable for any incidental, consequential or contingent damages.

This product is intended for *in vitro* research only.

Document Revision Number

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Material Safety Data Sheet

Manufacturer	Ludger Ltd Culham Science Centre, Oxford OX14 3EB, UK Tel: +44 870 085 7011, Fax: +44 870 163 4620 Email: safety@ludger.com, Website: www.ludger.com		
Identification of the substance	Ammonium formate, 2M aqueous solution		
Composition	Chemical	CAS No	Classification
	Ammonium formate	50-69-2	Xi, R36/37/38
	Water	7732-18-5	-
Concentration			Concentration
			< 10%
			> 90%
Hazard identification	Irritating to the eyes, respiratory system and skin.		
First aid measures	In case of contact: Eyes: irrigate with plenty of water. Skin: wash with soap and water. Ingestion: drink plenty of water. Inhalation: move to a well ventilated area and clear nose and throat. If in doubt seek medical advice.		
Fire fighting measures	Non hazardous. Water spray or appropriate foam according to surrounding fire conditions.		
Accidental release measures	Wear appropriate protective clothing. Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Wash spill site after material pick up is complete`.		
Handling and storage	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Store in a cool place or at room temperature. Handle in accordance with Good Laboratory Practice.		
Exposure Controls /	Wear appropriate protective clothing (safety spectacles, gloves, laboratory coat) in accordance with Good Laboratory Practice.		
Physical and chemical properties	Clear, colourless liquid. Water soluble		
Stability and reactivity	Stable under recommended storage conditions. Avoid exposure to strong oxidising agents and strong acids.		
Toxicological information	May be harmful if swallowed, inhaled or absorbed through skin. May cause irritation, complete toxicological information not available..		
Ecological information	Data not available.		
Disposal considerations	Dilute with excess water, mop up with absorptive material and dispose of according to local regulations.		

Transport information

ADR/RID/IMDG/IATA: Not dangerous goods.

Regulatory information

Hazard Symbols: Xi (Irritant)

Risk Phrases: R36/37/38 (Irritating to eyes, respiratory system and skin)

Safety phrases: S26 (In case of contact with eyes, rinse immediately with plenty of water and seek medical advice)

Other information

The advice offered is derived from the currently available information on the hazardous materials in this product or component. Consideration has been made regarding the quantities offered in the pre-dispensed container. The advice offered is, therefore, not all inclusive nor should it be taken as descriptive of the compound generally.