

Dec 17, 2024

Version 2

REDI-NET S-5 SOIL SHIPPING V.2

DOI

<https://dx.doi.org/10.17504/protocols.io.36wgq3y7ylk5/v2>



REDI-NET Consortium¹

¹REDI-NET Consortium

Remote Emerging Disea...



REDI-NET Consortium

University of Notre Dame, Naval Medical Research Center, Wal...

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.36wgq3y7ylk5/v2>

Protocol Citation: REDI-NET Consortium 2024. REDI-NET S-5 SOIL SHIPPING. protocols.io
<https://dx.doi.org/10.17504/protocols.io.36wgq3y7ylk5/v2> Version created by **REDI-NET Consortium**

License: This is an open access protocol distributed under the terms of the **[Creative Commons Attribution License](#)**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: October 24, 2024

Last Modified: December 17, 2024

Protocol Integer ID: 110872

Keywords: SAMPLE PREPARATION, SHIPMENT CONTAINER PREPARATION, SHIPPING INSTRUCTIONS, preserved sediment sample, proper packaging, sediment sample, shipping this protocol, sediment, soil, shipping, redi

Funders Acknowledgements:

USAMRAA

Grant ID: W81XWH-21-C-0001

USAMRAA

Grant ID: W81XWH-22-C-0093

USAMRAA

Grant ID: HT9425-23-C-0059

USAMRAA

Grant ID: HT9425-24-C-0072

Disclaimer

This work is supported by the US Army Medical Research and Development Command under Contract No.W81XWH-21-C-0001, W81XWH-22-C-0093, HT9425-23-C-0059 and HT9425-24-C-0072. The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army or Navy position, policy or decision unless so designated by other documentation.

Abstract

This protocol describes proper packaging and shipping of preserved sediment samples.



Guidelines

OBJECTIVE

To outline steps for proper packaging and shipping of preserved soil samples from a REDI-NET Silver Lab to a REDI-NET Gold Lab.

SUMMARY/SCOPE

The overarching aim of the REDI-NET is to develop a collaborative laboratory network between domestic and international partnering institutions to address disease surveillance needs in order to effectively detect, predict and contain potentially emergent zoonosis. This SOP provides guidance on correct soil packaging and shipping to the REDI-NET Gold Lab for further laboratory testing.

MAINTENANCE OF PERMITS

1. Site specific import / export permit expiration dates should be monitored and renewals processed at least 30 days prior to expiration.

APPENDICES

APPENDIX 1. FEDEX COMMERCIAL INVOICE

**Commercial Invoice**

Date of Export::				Export References (i.e. order no., invoice no., etc):				
Shipper/Exporter (complete name and address):				Recipient (complete name and address):				
Country of export:				Importer - if other than recipient (complete name and address):				
Country of manufacture:								
Country of ultimate destination:								
Federal Express International Air Waybill Number:				Currency:				
Marks/Nos	No. of pkgs	Type of packaging	Full Description of goods	Qty	Units of measure	Weight	Unit value	Total Value
	Total No. of Pkgs					Total Weight		Total Invoice Value
I declare all the information contained in this invoice to be true and correct								Check One ☐ FOB ☐ C&F ☐ CIF
Signature of shipper/exporter (type name and title and sign) Date:								

Materials

EQUIPMENT AND MATERIALS

Note

NOTE: If product number is listed, please ensure use of this or equivalent product.

	A	B	C
	Equipment / Material	Description	Mfg / Product #
	Centers for Disease Control and Prevention (CDC) permit	For international shipping of infectious biological agents, infectious substances and vectors addressed to appropriate PI laboratory	REDI-NET program leads to provide permits for the appropriate lab
	Sample holding container	To pack the sample for shipping	Locally sourced
	Large sealable bags	For sealing individual sample holding containers within shipping container	Locally sourced
	Packing materials	Newspaper/ cardboard or other appropriate material to secure samples in shipping container	Locally sourced
	Shipping container	To place sample holding containers; must meet specifications of cold chain as needed	Locally sourced, dependent upon cold chain requirements
	Packaging tape	To seal the cardboard boxes	Locally sourced
	Plastic poly-pocket	To attach relevant import / export permits to outside of shipping container; (eg. plastic enclosed sheet protector)	Locally sourced
	Commercial invoice	For tracking purposes	Locally sourced

SAMPLE PREPARATION

1

Note

NOTE: Prior to shipping research material, the Site Program Coordinator should notify the recipient of the planned shipment, verify the address of the recipient, and ensure the CDC permit is up to date.

Primary holding sample holding containers must be leak-proof. Samples should be preserved in appropriate preservative, if applicable (REDI-NET Soil Processing SOP S-2). Ensure that the lids are tightly closed to prevent leaking of storage media while in transit.

Note

NOTE: Do NOT hand label vials with marker pens as all data will be lost should one vial leak in transit.

- 2 Pack vials **in a vertical position** inside individual sample holding containers, ordered by barcode label, leaving one space between sample sites to clearly delineate sample subsets (Figure 1). Pack the space between the top of the box and the top of the tubes with packing material (eg. folded paper towel or newspaper) to minimize sample movement in transit. Tape each box carefully and label the outside of each box according to the sample collection.



Figure 1. Sample holding container examples.

Note

NOTE: At times, you may have to create your own box out of cardboard as it may be difficult to find small boxes.



- 3 Place each sample holding container within a sealable plastic bag prior to positioning in the shipping container. Position sample holding containers tightly to minimize movement in transit.
- 4 Choice of cold chain is dependent on shipment duration. If shipment can reach the destination within 72 hours, cold chain with gel ice pack is sufficient. If shipment duration exceeds 3 days, ice packs combined with dry ice will be required.
- 5 To maintain cold chain depending on the expected duration of the shipment, prepare a sufficient amount of frozen ice packs and/or dry ice and put them as "sandwiches" with soil sample boxes/plastic bags in between.

SHIPMENT CONTAINER PREPARATION

6

Note

NOTE: Prepare the shipping container following import / export permit instructions, to include any specific labeling instructions associated with the permit(s).

Prepare the database list of samples included in the shipment and place it within the plastic poly-pocket that is attached on the shipping container.

- 7 Print a copy of the required import / export permit(s) and place in a clear poly-pocket for attaching to the outside of the shipping container.
- 8 Prepare a printed address label according to the recipient address outlined on the import / export permit(s) and attach to the shipping container.

SHIPPING INSTRUCTIONS

- 9 Prepare courier shipping documents, as appropriate.
- 10 Complete a commercial invoice before dropping off the shipping container with the shipping courier (see Appendix 1 for FedEx invoice example).
- 11 Once the shipping container is ready and the commercial invoice has been completed, the shipping container should be given to the international courier for further processing.



Note

NOTE: The courier service may further package material to meet their standards for international transport.

Protocol references

REFERENCES

CDC Permit Website: <https://www.cdc.gov/cpr/ipp/index.htm>

USDA Permit Website: <https://www.aphis.usda.gov/aphis/ourfocus/importexport>