

VACCINE MANAGEMENT — Recommendations for Storage and Handling of Selected Biologicals

(These recommendations are not a substitute for the package insert included with each different biologic.)

• DT-Pediatric: Diphtheria, Tetanus Toxoids • Td-Adult: Tetanus, Diphtheria Toxoids

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Shelf Life: Check expiration date on vial or container. Do not use after the expiration date shown on the label.

Instructions for Use:

Shake well to obtain a slightly opaque, white suspension before withdrawal and use. Thoroughly agitate to maintain suspension of the vaccine. Do not administer if the suspension does not appear homogenous, if extraneous particulate matter remains, or if discoloration is observed.

Intramuscular injection, do not administer intravenously, subcutaneously, or intradermally.

Shelf Life after Opening: The vaccine should be administered shortly after withdrawal from the vial. Unused portions of multi-dose vials should be refrigerated at 35° to 46°F (2° to 8°C) and used until expiration date is reached, if not contaminated.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

• MMR: Measles/Mumps/Rubella Vaccine, • MR: Measles/Rubella Vaccine, • Measles Virus Vaccine,

Shipping Requirements: **Vaccine:** Use insulated container. Must be shipped with refrigerant. Must be stored between -58°F and +46°F (-50°C and +8°C). DO NOT use dry ice as it may subject vaccine to temperatures colder than -58°F (-50°C). Protect from light at all times. **Diluent:** May be shipped with vaccine.

Condition upon Arrival*: Maintain at -58°F and +5°F (-50°C and -15°C). **Do not use warm vaccine.** Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Vaccine may be stored separately from diluent.

Store as follows:
Vaccine: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Protect from light at all times**, since such exposure may inactivate the virus. **Diluent:** May be refrigerated or stored at room temperature 68° to 77°F (20° to 25°C). **Do not freeze diluent or expose to freezing temperatures.**

NOTE: Freeze-dried (lyophilized) MMR vaccine may be maintained at freezer temperatures.

Shelf Life: Check expiration date on vial or container. Do not use after the expiration date shown on the label.

Instructions for Reconstitution and Use: Reconstitute just before using. Use only the diluent supplied to

• Mumps Virus Vaccine, • Rubella Virus Vaccine

reconstitute the vaccine. Inject diluent into the vial of lyophilized vaccine and agitate to ensure thorough mixing. Withdraw entire contents into syringe and inject total volume of vaccine subcutaneously. Do not use if the lyophilized vaccine cannot be dissolved. Follow manufacturer's directions.

Shelf Life after Reconstitution, Thawing, or Opening: After reconstitution, use immediately or store in a dark place at 35° to 46°F (2° to 8°C). **Do not use if not used within 8 hours.**

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

NOTE: All materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

• DTaP - Pediatric: Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine • DTaP-IPV-Hib - Pediatric:Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine, Inactivated Polio Vaccine with Haemophilus influenzae type b Conjugate vaccine • DTaP-HepB-IPV - Pediatric: Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine, Hepatitis B Vaccine, Inactivated Polio Vaccine • Tdap - Adult: Tetanus Toxoid, Diphtheria Toxoid, Acellular Pertussis Vaccine • DTaP-IPV – Diphtheria Toxoid, Tetanus Toxoid, Acellular Pertussis Vaccine Inactivated Polio Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Shelf Life: Check expiration date on vial, container, or manufacturer-filled syringe. Do not use after the expiration date shown on the label.

Instructions for Use:

Just before use, shake the vial or syringe well until a uniform, white, cloudy suspension results. If particulate matter and/or discoloration exists, do not use.

Shelf Life after Reconstitution** or Opening:

Single-Dose Vials: The vaccine should be administered shortly after withdrawal from the vial.

Manufacturer-Filled Syringes: The vaccine should be administered shortly after the needle is attached to the syringe.

** ActHIB® (sanofi Pasteur): Reconstitute the ActHIB vaccine component with the DTaP-IPV component immediately before administration.

Do not mix with any other vaccine or diluent.

Just prior to use, thoroughly but gently shake the vial of DTaP-IPV component, withdraw the entire liquid content and inject into the vial of the lyophilized ActHIB component. Shake the vial thoroughly until a cloudy, uniform white to off-white (yellowish tinge) suspension results. If particulate matter and/or discoloration exists, do not use.

Vaccine should be administered intramuscularly. **DO NOT** administer intravenously, intradermally, or subcutaneously. **DO NOT** use after expiration date shown on the label.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

• MMRV: Measles/Mumps/Rubella/Varicella Vaccine • Varicella (Chickenpox) Vaccine

Shipping Requirements: **Vaccine:** Use transport container that maintains temperature between -58°F and +5°F (-50°C and -15°C). DO NOT ship with dry ice. Should be delivered within 3 days of shipment. **Diluent:** May be shipped with vaccine. DO NOT store diluent in freezer.

Conditions upon Arrival*: Should be stored frozen at a temperature between -58°F and +5°F (-50°C and -15°C) until reconstituted for injection.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place vaccine in proper storage; and
2) contact the manufacturer at (800) 637-2590 for viability determination.

Storage Requirements: **Vaccine:** Store in freezer immediately upon arrival. Maintain vaccine in a continuously frozen state at -58°F and +5°F (-50°C and -15°C) or colder. **Freeze/thaw cycles are not allowed with this vaccine. Protect from light at all times.** Vaccine should only be stored in freezers or refrigerator/freezers with separate doors and

compartments. Acceptable storage may be achieved in standard household freezers purchased in the last 10 years, and standard household refrigerator/freezers with a separate, sealed freezer compartment. Small, combination refrigerator-freezer units outfitted with a single external door are NEVER acceptable for the storage of varicella-containing vaccine.

In order to maintain temperatures of ≤5°F (≤-15°C) or colder, it will be necessary in most refrigerator/freezer models to turn the temperature dial down to the coldest setting. This may result in the refrigerator compartment temperature being lowered as well. Careful monitoring of the refrigerator temperature will be necessary.

Diluent: May be refrigerated or stored at room temperature 68° to 77°F (20° to 25°C). **Do not freeze or expose to freezing temperatures. Protect from light at all times.**

Shelf Life: Check expiration date on vial or container. Do not use after the expiration date shown on the label.

Instructions for Reconstitution and Use: Reconstitute just before using. Use only the diluent supplied to reconstitute the vaccine. Follow manufacturer's directions.

Shelf Life after Reconstitution, Thawing, or Opening: Do not use if not used within **30 minutes** of reconstitution.

Special Instructions: If this vaccine is stored at a temperature warmer than ≤5°F (≤-15°C), it will result in a loss of potency and a reduced shelf life. If a power outage or some other situation occurs that results in the vaccine storage temperature rising above the recommended temperature, the healthcare provider should contact Merck, the vaccine manufacturer, at 1-800-609-4618 for a reevaluation of the product's potency before using the vaccine.

Rotate stock so that the vaccine with the shortest expiration date is used first.

NOTE: all materials used for administering live virus vaccines should be burned, boiled, or autoclaved prior to disposal.

Hepatitis Vaccines: Hepatitis A, Hepatitis B, Hepatitis A-B, Hepatitis B-Haemophilus influenzae type b

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Shelf Life: Check expiration date on vial or manufacturer-filled syringe.

Instructions for Use:

Shake well to obtain a slightly opaque, white suspension before withdrawal and use. Thoroughly agitate to maintain suspension of the vaccine. Discard if the suspension does not appear homogenous, if extraneous particulate matter remains, or if discoloration is observed.

DO NOT dilute to administer.

Shelf Life after Opening: **Single-Dose Vials:** Use: Do not use after the expiration date shown on the label. Withdraw dose of vaccine from the single-dose vial using a sterile needle and

syringe. The vaccine should be administered shortly after withdrawal from the vial.

Pre-Filled Syringes: Use: Do not use after the expiration date shown on the label. Shake well before use. Attach the sterile needle securely on the syringe. Administer the entire dose.

DO NOT dilute to administer. The vaccine should be administered shortly after the needle is attached to the syringe.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

MCV4: Meningococcal Conjugate Vaccine: Serogroups A, C, Y, W-135

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze. Protect from light.**

Shelf Life: Check expiration date on vial or

container. Do not use after the expiration date shown on the label.

Special Instructions for Reconstitution of MENVEO® (Novartis): MENVEO is supplied in two vials that must be combined prior to administration. MENVEO must be prepared for administration by reconstituting the MENA lyophilized conjugate vaccine component with the MENCYW-135 liquid conjugate vaccine component. Using a graduated syringe, withdraw the entire contents of the vial of MENCYW-135 liquid conjugate vaccine component and inject into the MENA lyophilized conjugate vaccine component vial. Invert the vial and shake well until the vaccine is dissolved and then withdraw 0.5mL of reconstituted product.

Following reconstitution, the MENVEO vaccine is a clear, colorless solution, free from visible foreign particles.

The reconstituted MENVEO vaccine should be used immediately, but may be held at or below 77°F (25°C) for up to 8 hours.

For intramuscular injection only. **DO NOT** administer MENVEO intravenously, subcutaneously, or intradermally.

Instructions for Use: Follow manufacturer's directions. Menactra vaccine is a clear to slightly turbid liquid.

Shelf Life after Opening: The vaccine should be administered shortly after withdrawal from the vial.

Special Instructions: Vaccine should be injected by the intramuscular route. Do not administer intradermally, subcutaneously, or intravenously.

Rotate stock so that the vaccine with the shortest expiration date is used first.

Hib: Haemophilus influenzae type b Conjugate Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze. ActHIB:** Store lyophilized vaccine packaged with saline diluent at 35° to 46°F (2° to 8°C). **Do not freeze. Hiberix:** Lyophilized vaccine vials - store refrigerated between 35° to 46°F (2° to 8°C), protect vials

from light. Diluent - store refrigerated between 35° to 46°F (2° to 8°C) or in a controlled room temperature between 68° and 77°F.

Do not freeze, do not use if the diluent has been frozen. **PedvaxHIB:** store liquid vaccine at 35° to 46°F (2° to 8°C). **Do not freeze.** Liquid PedvaxHIB is ready to use thus does not require a diluent; it is a slightly opaque white suspension.

Shelf Life: Check expiration date on vial or container.

Instructions for Reconstitution and Use:** For ActHIB® and Hiberix®

Hiberix® is to be reconstituted only with the accompanying saline diluent. Inject the entire volume of sterile diluent contained in the vial or syringe into the vial of lyophilized vaccine. Thorough agitation is advised to ensure complete reconstitution. The entire volume of

reconstituted vaccine is then drawn back into the syringe. The vaccine will appear clear and colorless after reconstitution. Inject intramuscularly, do not inject intravenously. **PedvaxHIB:** Shake well before withdrawal and use. Thorough agitation is necessary to maintain suspension of the vaccine.

Shelf Life after Reconstitution or Opening:** The vaccine should be administered shortly after withdrawal from the vial. Do not use after the expiration date shown on the label.

** ActHIB® (sanofi Pasteur) should be used within 24 hours of reconstitution if used alone. Only the diluent shipped with the product may be used to reconstitute the sanofi Pasteur ActHIB® product.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

HPV: Human Papillomavirus Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures. Protect from light.**

Shelf Life: Check expiration date on vial or container. Do not use after the expiration date shown on the label.

Special Instructions for Use: GARDASIL: Shake well before use. Thorough agitation immediately before administration is necessary to maintain suspension of the vaccine. After thorough agitation, GARDASIL is a white, cloudy liquid. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration. Do not use the product if particulates are present or if it appears discolored. **CERVARIX:** With thorough agitation, CERVARIX is a homogenous, turbid, white suspension. Do not administer if it appears otherwise. Upon storage, a fine, white deposit with a clear, colorless supernatant **585 may be observed. This does not constitute a sign of deterioration.**

Instructions for Use: **Multi-dose Vials:** Shake vial vigorously before withdrawal and use. Follow manufacturer's directions.

Instructions for Use: Follow manufacturer's directions. For intramuscular use only. HPV vaccines should not be diluted or mixed with other vaccines. Administer as soon as possible after being removed from refrigeration.

Shelf Life after Opening: Use until expiration date is reached, if not contaminated. HPV vaccines should be administered as soon as possible after being removed from refrigeration.

Gardasil can be out of refrigeration (at temperatures at or below 77°F /25°C), for a total time not to exceed 72 hours.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

IPV: Inactivated Polio Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate on arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Shelf Life: Check expiration date on vial or container. Do not use after the expiration date shown on the label.

Instructions for Use: **Multi-dose Vials:** Shake vial vigorously before withdrawal and use. Follow manufacturer's directions.

Shelf Life after Opening: The vaccine should be administered shortly after withdrawal from the vial.

Multi-dose Vials: Unused portions of multi-dose vials should be refrigerated at 35° to 46°F (2° to 8°C) and used until expiration date is reached, if not contaminated.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first.

LAIV: Live Attenuated Influenza Vaccine

Shipping Requirements: The cold chain [35° to 46°F (2° to 8°C)] must be maintained when transporting LAIV. Store in refrigerator between 35° to 46°F (2° to 8°C) upon receipt and until use. The product must be used before the expiration date on the sprayer label. Do not freeze.

Condition upon Arrival*: Refrigerate upon arrival.

*If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region for guidance.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze.**

Shelf Life: Formulated for use during current influenza season. Check expiration date on package. Do not use after the expiration date shown on the label.

Instructions for Use: LAIV is a colorless to pale yellow liquid and is clear to slightly cloudy. After removal of the sprayer from the refrigerator, remove the rubber tip protector.

For intranasal administration only. **DO NOT** inject. **DO NOT** use a needle.

Follow manufacturer's instructions to deliver 1/2 dose into one nostril. Then removed the dose-divider clip and deliver the remainder of the dose into the other nostril.

Shelf Life after Opening: **Single-Dose Sprayer:** The vaccine should be administered shortly after removal from the refrigerator. Between uses, return multi-dose vial to the recommended storage conditions at 35° to 45°F (2° to 8°C).

Special Instructions: Check expiration date. Product must be used before the date on the sprayer label. Rotates stock so that vaccine with the shortest expiration date is used first.

NOTE: All vaccine materials should be disposed of using medical waste disposal procedures. Contact the state health department for details.

Rotavirus Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). ROTARIX is available as a vial of lyophilized vaccine, a pre-filled oral applicator of liquid diluent with a plunger stopper, and a transfer adapter for reconstitution.

ROTARIX Storage before Reconstitution: Vials: Store vials of lyophilized ROTARIX refrigerated at 35° to 46°F (2° to 8°C). **Protect vials from light.**

Diluent: The diluent may be stored at a controlled room temperature 68° to 77°F (20° to 25°C). Do not freeze. Do not use if the diluent has been frozen.

ROTARIX Storage after Reconstitution: ROTARIX should be administered within 24 hours of reconstitution. It may be stored refrigerated at 35° to 46°F (2° to 8°C) or at room temperature up to 77°F (25°C), after reconstitution. Do not use the reconstituted vaccine if not used within 24 hours. Do not freeze. Do not use if the vaccine has been frozen. **Do not freeze or expose to freezing temperatures. Protect from light.**

Shelf Life: Check expiration date on tube or container.

Instructions for Use: FOR ORAL USE ONLY. DO NOT INJECT.

RotaTeq: RotaTeq is a ready-to-use liquid dose administered orally. Administer dose by gently squeezing liquid into infant's mouth toward the inner cheek until dosing tube is empty.

RotaTeq is a pale, yellow clear liquid that may have a pink tint. Rotarix: **FOR ORAL USE ONLY. DO NOT INJECT.**

Reconstitute only with accompanying diluent. Do not mix Rotarix with other vaccines or solutions.

Special instructions for Reconstitution: Remove vial cap and push transfer adapter onto vial (lyophilized vaccine). Shake diluent in oral applicator (white, turbid suspension). Connect oral applicator to transfer adapter. Push plunger of oral applicator to transfer diluent into vial. Suspension will appear white and turbid. Withdraw vaccine into oral applicator. Twist and remove the oral applicator. Do not use a needle, for oral administration only.

Shelf Life after Opening: After opening use immediately.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first. For information regarding **RotaTeq** stability under conditions other than those recommended, call 1-800-MERCK-90.

TIV: Trivalent Inactivated Influenza Vaccine QIV: Quadrivalent Inactivated Influenza Vaccine

Shipping Requirements: Should be shipped in insulated container. Maintain temperature at 35° to 46°F (2° to 8°C). **Do not freeze or expose to freezing temperatures.**

Condition upon Arrival*: Should not have been frozen or exposed to freezing temperatures. Refrigerate upon arrival.

* If you have any questions about the condition of the material at the time of delivery, you should:
1) immediately place material in recommended storage; and
2) notify your health service region.

Storage Requirements: Refrigerate immediately upon arrival. Store at 35° to 46°F (2° to 8°C). **Do not freeze.**

Shelf Life: Formulated for use during current influenza season.

Instructions for Use: Shake the syringe or single-dose vial before administering the vaccine. Shake the multi-dose vial each time before withdrawing the vaccine. Inject intramuscularly, do not inject intravenously, intradermally, or subcutaneously.

Shelf Life after Opening: **Multi-dose Vials:** The vaccine should be administered shortly after withdrawal from the vial. Unused portions of multi-dose vials should be refrigerated at 35° to 46°F (2° to 8°C) and used until expiration date is reached, if not contaminated.

Manufacturer-Filled Syringes: Sterile until removal of hub cap.

Special Instructions: Rotate stock so that the vaccine with the shortest expiration date is used first. **DO NOT** use after the expiration date shown on the label.

Adapted from:

• Department of Health and Human Services. Centers for Disease Control and Prevention. Vaccine Management. Recommendations for Storage and Handling of Selected Biologicals. June 2005. www.cdc.gov/nip/publications/vac_mgt_book.htm (accessed September 28, 2007).

• MERCK & Co., Inc. GARDASIL® [Quadrivalent Human Papillomavirus (Types 6, 11, 16, 18) Recombinant Vaccine] (Whitehouse Station, NJ, June 2006).

www.merck.com/product/usa/pi_circulars/g/gardasil/gardasil_pi.pdf (accessed September 28, 2007).

• MERCK & Co., Inc. RotaTeq® [Rotavirus Vaccine, Live, Oral, Pentavalent] (Whitehouse Station, NJ, February 2006).

www.merck.com/product/usa/pi_circulars/r/rotateq/rotateq_pi.pdf (accessed September 28, 2007).

• MERCK & Co., Inc. ProQuad® [Measles, Mumps, Rubella and Varicella (Oka/Merck) Virus Vaccine Live] (Whitehouse Station, NJ, July 2006).

www.merck.com/product/usa/pi_circulars/p/proquad/proquad_pi.pdf (accessed September 28, 2007).



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