

# Vaccine Excipients

updated September 2016

Excipient	Type	Vaccine Name	Vaccine Type	Amount per dose
2-Phenoxyethanol	Stabilizer	Adacel	Tdap	3.3 mg (0.6% v/v) (not as a preservative)
2-Phenoxyethanol	Stabilizer	Daptacel	DTaP	3.3 mg (0.6% v/v) (not as a preservative)
2-Phenoxyethanol	Preservative	IPOL	Polio	0.5% (as a preservative)
2-Phenoxyethanol	Stabilizer	Pentacel	DTaP+IPV+Hib	3.3 mg (0.6 v/v) (not as a preservative)
2-Phenoxyethanol	Stabilizer	Quadracel	DTaP+IPV	3.3 mg (0.6 v/v) (not as a preservative)
3-O-desacyl-4'-monophosphoryl lipid A (MPL)	Adjuvant	Cervarix	HPV	50 mcg
Albumin, Bovine	Stabilizer	Ixiaro	Japanese Encephalitis	≤ 100 ng/mL
Albumin, Bovine	Stabilizer	Quadracel	DTaP+IPV	≤ 50 ng
Albumin, Bovine	Stabilizer	Vaqta	HepA	< 0.1 ng
Albumin, Calf Serum	Stabilizer	Kinrix	DTaP+IPV	VERO cell culture growth
Albumin, Calf Serum	Stabilizer	Zostavax	Zoster	Trace amounts
Albumin, Calf Serum Protein	Stabilizer	IPOL	IPV	< 1 ppm50 ng
Albumin, Calf Serum Protein	Stabilizer	Pediarix	DTaP+HepB+IPV	VERO cell culture growths ≤ 50 ng residual
Albumin, Calf Serum Protein	Stabilizer	Pentacel	DTaP+IPV+Hib	≤ 50 ng residual
Albumin, Egg (Ovalbumin)	Residual Medium	Afluria	Influenza	≤ 1 mcg
Albumin, Egg (Ovalbumin)	Residual Medium	Fluarix Quad	Influenza	≤ 0.05 mcg
Albumin, Egg (Ovalbumin)	Residual Medium	Flulaval Quad	Influenza	≤ 0.3 mcg
Albumin, Egg (Ovalbumin)	Residual Medium	FluMist Quad	Influenza	≤ 0.24 mcg
Albumin, Egg (Ovalbumin)	Residual Medium	Fluvirin	Influenza	≤ 1 mcg
Albumin, Egg (Ovalbumin)	Residual Medium	FluZone	Influenza	Limited quantity
Albumin, Egg (Ovalbumin)	Residual Medium	RabAvert	Rabies	< 3 ng/dose
Albumin, Fetal Bovine Serum	Stabilizer	MMR-II	MMR	< 1 ppm
Albumin, Fetal Bovine Serum	Stabilizer	RotaTeq	Rotavirus	Trace amounts
Albumin, Fetal Bovine Serum	Stabilizer	Varivax	Varicella	Trace amounts
Albumin, Human	Stabilizer	Imovax	Rabies	< 100 mg
Albumin, Human Serum	Diluent/Stabilizer	MMR-II	MMR	≤ 0.3 mg
Albumin, Human Serum	Diluent/Stabilizer	ProQuad	MMRV	0.31 mg
Albumin, Human Serum	Diluent/Stabilizer	RabAvert	Rabies	< 0.3 mg
Aluminum	Adjuvant	Adacel	Tdap	0.33 mg
Aluminum	Adjuvant	Bexsero	Meningococcal Group B	1.5 mg aluminum hydroxide
Aluminum	Adjuvant	BioThrax	Anthrax	1.2 mg/mL
Aluminum	Adjuvant	Boostrix	Tdap	≤ 0.39 mg
Aluminum	Adjuvant	Cervarix	HPV	0.5 mg aluminum hydroxide
Aluminum	Adjuvant	Comvax	Hib+HepB	225 mcg
Aluminum	Adjuvant	Daptacel	DTaP	0.33 mg
Aluminum	Adjuvant	DT	DT	≤ 0.17 mg
Aluminum	Adjuvant	Engerix-B	HepB	0.5 mg/mL as aluminum hydroxide
Aluminum	Adjuvant	Gardasil	HPV 9-valent	225 mcg
Aluminum	Adjuvant	Gardasil 9	HPV	500 mcg
Aluminum	Adjuvant	Infanrix	DTaP	≤ 0.625 mg
Aluminum	Adjuvant	Ixiaro	Japanese Encephalitis	250 mcg aluminum hydroxide
Aluminum	Adjuvant	Kinrix	DTaP+IPV	≤ 0.6 mg
Aluminum	Adjuvant	Pediarix	DTaP+HepB+IPV	≤ 0.85 mg
Aluminum	Adjuvant	PedvaxHIB	Hib+HepB	225 mcg
Aluminum	Adjuvant	Pentacel	DTaP+IPV+Hib	0.33 mg
Aluminum	Adjuvant	Prenar	Pneumococcal 7-valent	0.125 mg
Aluminum	Adjuvant	Prenar 13	Pneumococcal 13-valent	0.125 mg
Aluminum	Adjuvant	Quadracel	DTaP+IPV	0.33 mg
Aluminum	Adjuvant	Recombivax HB	HepB	0.5 mg/mL
Aluminum	Adjuvant	Td	Td	≤ 0.53 mg
Aluminum	Adjuvant	Tenivac	Td	0.33 mg
Aluminum	Adjuvant	Tetanus & Diphtheria Toxoids	TT	≤ 0.25
Aluminum	Adjuvant	Twinrix	HepA+HepB	0.45 mg
Aluminum	Adjuvant	Vaqta	HepA	0.45 mg
Aluminum	Adjuvant	Trumenba	Meningococcal Group B	0.25 mg
Amino Acid	Medium Nutrient	BioThrax	Anthrax	Unspecified amount in growth medium
Amino Acid	Medium Nutrient	Cervarix	HPV	Unspecified amount in growth medium
Amino Acid	Medium Nutrient	Comvax	Hib+HepB	Unspecified amount in growth medium
Amino Acid	Medium Nutrient	Flublok	Influenza	Ingredient in growth medium
Amino Acid	Medium Nutrient	Gardasil	HPV	Ingredient in growth medium
Amino Acid	Medium Nutrient	Menveo	Meningococcal	In growth medium
Amino Acid	Medium Nutrient	MMR-II	MMR	In growth medium
Amino Acid	Medium Nutrient	PedvaxHIB	Hib+HepB	Amount not specified in Package Insert
Amino Acid	Medium Nutrient	Recombivax HB	HepB	In fermentation medium
Amino Acid	Medium Nutrient	Rotarix	Rotavirus	In DMEM (Dulbecco's Modified Eagle Medium)
Amino Acid	Medium Nutrient	Twinrix	HepA+HepB	Amount not specified in Package Insert

<b>Amino Acid</b>	Medium Nutrient	Vivotif	Typhoid	1.4-7 mg/capsule
<b>Ammonium Sulfate</b>	Protein Purifier	ActHIB	Hib	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Adacel	Tdap	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Daptacel	DTaP	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	DT	DT	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Menactra	Meningococcal	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Pentacel	DTaP+IPV+Hib	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Prevnar	Pneumococcal 7-valent	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Prevnar 13	Pneumococcal 13-valent	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Td	Td	Ingredient in purification
<b>Ammonium Sulfate</b>	Protein Purifier	Tenivac	Td	Ingredient in purification
<b>Amphotericin B</b>	Antimicrobial	RabAvert	Rabies	< 2 ng
<b>Ascorbic Acid</b>	Anitoxidant	Vivotif	Typhoid	1-5 mg/capsule
<b>Barium</b>		Fluad	Influenza	<0.5 mcg
<b>Benzethonium Chloride</b>	Preservative	BioThrax	Anthrax	25 mcg/mL
<b>Beta-Propiolactone</b>	Viral Inactivator	Afluria	Influenza	< 2 ng
<b>Beta-Propiolactone</b>	Viral Inactivator	Flucelvax Quad	Influenza	≤ 0.5 mcg
<b>Beta-Propiolactone</b>	Viral Inactivator	Fluvirin	Influenza	≤ 0.5 mcg
<b>Beta-Propiolactone</b>	Viral Inactivator	Imovax	Rabies	< 50 ppm
<b>Bovine Casein</b>	Medium Nutrient	Boostrix	Tdap	Amount not specified in Package Insert
<b>Bovine Casein</b>	Medium Nutrient	Infanrix	DTaP	12.2-18.3 ng/mL
<b>Bovine Casein</b>	Medium Nutrient	Kinrix	DTaP+IPV	Ingredient in Latham medium
<b>Bovine Casein</b>	Medium Nutrient	Pediarix	DTaP+HepB+IPV	Ingredient of Latham medium
<b>Bovine Casein</b>	Medium Nutrient	Vivotif	Typhoid	Ingredient in medium
<b>Bovine Extract</b>	Medium Nutrient	Boostrix	Tdap	Amount not specified in Package Insert
<b>Bovine Extract</b>	Medium Nutrient	DT	DT	Amount not specified in Package Insert
<b>Bovine Extract</b>	Stabilizer	Infanrix	DTaP	Ingredient in Fenton medium
<b>Bovine Extract</b>	Stabilizer	Kinrix	DTaP+IPV	Ingredient in Fenton medium
<b>Bovine Extract</b>	Stabilizer	Pediarix	DTaP+HepB+IPV	Ingredient of Fenton medium
<b>Bovine Extract</b>	Stabilizer	Td	Td	Ingredient in Mueller's media
<b>Bovine, Casamino Acid</b>	Stabilizer	Adacel	Tdap	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Daptacel	DTaP	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Menomune	Meningococcal	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Pentacel	DTaP+IPV+Hib	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Prevnar	Pneumococcal 7-valent	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Prevnar 13	Pneumococcal 13-valent	Ingredient in growth medium
<b>Bovine, Casamino Acid</b>	Stabilizer	Tenivac	Td	Ingredient in growth medium
<b>Calcium Carbonate</b>	Buffer	Rotarix	Rotavirus	Ingredient in diluent
<b>Calcium Chloride</b>	Medium Nutrient	Afluria	Influenza	1.5 mcg
<b>Calcium Chloride</b>	Medium Nutrient	Rotarix	Rotavirus	In DMEM (Dulbecco's Modified Eagle Medium)
<b>Carbohydrates</b>	Medium Nutrient	Gardasil	HPV	Ingredient in fermentation medium
<b>Chick Embryo</b>	Residual Medium	MMR-II	MMR	No intact cells (may have trace residual protein)
<b>Chick Embryo</b>	Residual Medium	ProQuad	MMRV	No intact cells (may have trace residual protein)
<b>Chick Embryo</b>	Residual Medium	YF-Vax	Yellow Fever	Not listed as an ingredient; Yellow Fever virus is grown in chicken embryos
<b>Chick fibroblasts</b>	Protein Purifier	RabAvert	Rabies	Growth medium
<b>Chlortetracycline</b>	Antimicrobial	RabAvert	Rabies	1 mcg
<b>Citric Acid Monohydrate</b>		Fluad	Influenza	0.04 mg
<b>CTAB</b>	Protein Purifier	Fluad	Influenza	≤12 mcg
<b>CTAB</b>	Protein Purifier	Flucelvax Quad	Influenza	≤ 13.5 mcg
<b>Dextrose</b>	Medium Nutrient	Comvax	Hib+HepB	Amount not specified in Package Insert
<b>Dextrose</b>	Medium Nutrient	Recombivax HB	HepB	Ingredient of fermentation medium
<b>Dextrose</b>	Medium Nutrient	Vivotif	Typhoid	Ingredient in medium
<b>D-glucose</b>	Medium Nutrient	Rotarix	Rotavirus	In DMEM (Dulbecco's Modified Eagle Medium)
<b>Dimethyl-beta-cyclodextrin</b>	Medium Nutrient	Adacel	Tdap	Amount not specified in Package Insert
<b>Dimethyl-beta-cyclodextrin</b>	Medium Nutrient	Daptacel	DTaP	Amount not specified in Package Insert
<b>Dimethyl-beta-cyclodextrin</b>	Medium Nutrient	Pentacel	DTaP+IPV+Hib	Ingredient of Stainer-Scholte medium
<b>DNA</b>	Residual Medium	Flublok	Influenza	≤ 10 ng
<b>DNA</b>	Residual Medium	Flucelvax Quad	Influenza	≤ 10 ng MDCK cell
<b>DNA</b>	Residual Medium	Ixiaro	Japanese Encephalitis	≤ 200 pg/mL ('host cell DNA')
<b>DNA</b>	Residual Medium	ProQuad	MMRV	Residual component of MRC-5 cells
<b>DNA</b>	Residual Medium	RotaTaq	Rotavirus	
<b>DNA</b>	Residual Medium	Vaqta	HepA	< 4 x 10 <sup>-6</sup> mcg
<b>DNA</b>	Residual Medium	Varivax	Varicella	Residual component of MRC-5 cells
<b>DNA</b>	Residual Medium	Zostavax	Zoster	Residual component of MRC-5 cells
<b>EDTA</b>	Preservative	FluMist Quad	Influenza	<0.37 mcg
<b>EDTA</b>	Preservative	RabAvert	Rabies	0.3 mg sodium EDTA
<b>EDTA</b>	Preservative	Varivax	Varicella	Trace amounts
<b>Egg Protein</b>	Residual Medium	Fluad	Influenza	<0.4 mcg
<b>Egg Protein</b>	Residual Medium	Fluvirin	Influenza	≤ 1 mcg ovalbumin

<b>Ferric (III) Nitrate</b>	Medium Nutrient	Rotarix	Rotavirus	In DMEM (Dulbecco's Modified Eagle Medium)
<b>Formaldehyde</b>	Inactivating Agent	ActHIB	Hib	< 0.5 mcg
<b>Formaldehyde</b>	Inactivating Agent	Adacel	Tdap	≤ 5 mcg
<b>Formaldehyde</b>	Preservative	BioThrax	Anthrax	100 mcg/mL
<b>Formaldehyde</b>	Inactivating Agent	Boostrix	Tdap	≤ 100 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Comvax	Hib+HepB	≤ 0.0004% (w/v) residual
<b>Formaldehyde</b>	Inactivating Agent	Daptacel	DTaP	≤ 5 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	DT	DT	< 0.02%
<b>Formaldehyde</b>	Inactivating Agent	Fluad	Influenza	≤10 mcg
<b>Formaldehyde</b>	Inactivating Agent	Fluarix Quad	Influenza	≤ 5 mcg
<b>Formaldehyde</b>	Inactivating Agent	Flulaval Quad	Influenza	≤ 25 mcg
<b>Formaldehyde</b>	Inactivating Agent	FluZone	Influenza	≤ 100 mcg/.5mL
<b>Formaldehyde</b>	Inactivating Agent	FluZone High-Dose	Influenza	≤ 100 mcg
<b>Formaldehyde</b>	Inactivating Agent	FluZone Intradermal Quad	Influenza	≤ 20 mcg
<b>Formaldehyde</b>	Inactivating Agent	FluZone Quad	Influenza	≤ 100 mcg/0.5mL in Fluzone Intradermal
<b>Formaldehyde</b>	Inactivating Agent	Hiberix	Hib	< 0.5 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Infanrix	DTaP	≤ 100 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	IPOL	Polio	≤ 0.02%
<b>Formaldehyde</b>	Inactivating Agent	Ixiaro	Japanese Encephalitis	≤ 200 pmm
<b>Formaldehyde</b>	Inactivating Agent	JE-Vax	Japanese Encephalitis	< 100 mcg
<b>Formaldehyde</b>	Inactivating Agent	Kinrix	DTaP+IPV	≤ 100 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Menactra	Meningococcal	< 2.66 mcg
<b>Formaldehyde</b>	Inactivating Agent	Menhibrix	Meningococcal CY+Hib	≤ 0.72 mcg
<b>Formaldehyde</b>	Inactivating Agent	Menveo	Meningococcal	≤ 0.3 mcg
<b>Formaldehyde</b>	Inactivating Agent	Pediarix	DTaP+HepB+IPV	≤ 100 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Pentacel	DTaP+IPV+Hib	≤ 5 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Quadracel	DTaP+IPV	≤ 5 mcg
<b>Formaldehyde</b>	Inactivating Agent	Recombivax HB	HepB	< 15 mcg/mL (residual)
<b>Formaldehyde</b>	Inactivating Agent	Td	Td	100 mcg
<b>Formaldehyde</b>	Inactivating Agent	Tenivac	Td	≤ 5 mcg (residual)
<b>Formaldehyde</b>	Inactivating Agent	Tetanus and Diphtheria Toxoids	Td	≤ 0.02% (residual)
<b>Formaldehyde</b>	Inactivating Agent	Twinrix	HepA+HepB	≤ 0.1 mg formalin
<b>Formaldehyde</b>	Inactivating Agent	Vaqta	HepA	< 0.8 mcg
<b>Galactose</b>	Medium Nutrient	Vivotif	Typhoid	Ingredient in medium
<b>Gelatin</b>	Stabilizer	FluZone	Influenza	0.05% in 0.25 mL and 0.5 mL
<b>Gelatin</b>	Manufacturing residue	JE-Vax	Japanese Encephalitis	500 mcg/1 mL dose
<b>Gelatin</b>	Gelatin Capsules	Vivotif	Typhoid	Gelatin capsules
<b>Gelatin</b>	Stabilizer	YF-Vax	Yellow Fever	Amount not specified in Package Insert
<b>Gelatin, Bovine</b>	Stabilizer, solvent	RabAvert	Rabies	< 12 mg polygeline
<b>Gelatin, hydrolyzed</b>	Stabilizer	MMR-II	MMR	14.5 mg
<b>Gelatin, hydrolyzed</b>	Stabilizer	ProQuad	MMRV	11 mg
<b>Gelatin, hydrolyzed</b>	Stabilizer	Varivax	Varicella	12.5 mg
<b>Gelatin, Porcine, Hydrolyzed</b>	Stabilizer	FluMist Quad	Influenza	2.00 mg/0.2 mLdose
<b>Gelatin, Porcine, Hydrolyzed</b>	Stabilizer	Zostavax	Varicella Zoster	15.58 mg
<b>Gentamicin Sulfate</b>	Antimicrobial	Fluarix Quad	Influenza	≤ 0.15 mcg
<b>Gentamicin Sulfate</b>	Antimicrobial	FluMist Quad	Influenza	< 0.015 mcg/mL
<b>Glutamate</b>	Medium Nutrient	MMR-II	MMR	Ingredient in growth medium (Medium 199)
<b>Glutaraldehyde</b>	Inactivating Agent	Adacel	Tdap	< 50 ng (residual)
<b>Glutaraldehyde</b>	Inactivating Agent	Boostrix	Tdap	Amount not specified in Package Insert
<b>Glutaraldehyde</b>	Inactivating Agent	Daptacel	DTaP	< 50 ng (residual)
<b>Glutaraldehyde</b>	Inactivating Agent	Infanrix	DTaP	Amount not specified in Package Insert
<b>Glutaraldehyde</b>	Inactivating Agent	Kinrix	DTaP+IPV	Amount not specified in Package Insert
<b>Glutaraldehyde</b>	Inactivating Agent	Pediarix	DTaP+HepB+IPV	Amount not specified in Package Insert
<b>Glutaraldehyde</b>	Inactivating Agent	Pentacel	DTaP+IPV+Hib	< 50 ng (residual)
<b>Glutaraldehyde</b>	Inactivating Agent	Quadracel	DTaP+IPV	< 50 ng
<b>Hexadecyltrimethylammonium Bromide</b>	Protein Purifier	Typhim Vi	Typhoid	Amount not specified in Package Insert
<b>Histidine</b>	Medium Nutrient	Bexsero	Meningococcal Group B	0.776 mg
<b>Histidine</b>	Medium Nutrient	Trumenba	Meningococcal Group B	10 mM
<b>Hydrocortisone</b>	Medium Nutrient	Fluarix Quad	Influenza	≤ 0.0016 mcg
<b>Insect cell</b>	Residual medium	Cervarix	HPV	≤ 40 ng (residual)
<b>Kanamycin</b>		Fluad	Influenza	≤ 0.03 mcg
<b>Lactalbumin Hydrolysate</b>	Medium Nutrient	Kinrix	DTaP+IPV	Ingredient in growth medium
<b>Lactalbumin Hydrolysate</b>	Medium Nutrient	Pediarix	DTaP+HepB+IPV	Ingredient in growth medium
<b>Lactose</b>	Stabilizer	Hiberix	Hib	12.6 mg
<b>Lactose</b>	Stabilizer	Menomune	Meningococcal	2.5-5 mg
<b>Lactose</b>	Stabilizer	Vivotif	Typhoid	100-180 mg/capsule
<b>L-cystine</b>	Medium Nutrient	Rotarix	Rotavirus	Amount not specified in Package Insert
<b>L-histidine</b>	Medium Nutrient	Gardasil	HPV	0.78 mg

L-histidine	Medium Nutrient	Gardasil 9	HPV	0.78 mg
L-tyrosine	Medium Nutrient	Rotarix	Rotavirus	Amount not specified in Package Insert
Magnesium Stearate	Lubricant for capsule filling	Vivotif	Typhoid	3.6-4.4 mg/capsule
Magnesium Sulfate	Medium Nutrient	Rotarix	Rotavirus	Amount not specified in Package Insert
Monosodium glutamate	Stabilizer	FluMist Quad	Influenza	0.188 mg/0.2 mL dose
Monosodium L-glutamate	Stabilizer	ProQuad	MMRV	0.40 mg
Monosodium L-glutamate	Stabilizer	Varivax	Varicella	0.5 mg
Monosodium L-glutamate	Stabilizer	Zostavax	Varicella Zoster	0.62 mg
Mouse Serum Protein	Manufacturing residue	JE-Vax	Japanese Encephalitis	< 50 ng
MRC-5	Manf residue	Imovax	Rabies	Amount not specified in Package Insert
MRC-5	Growth Medium	Pentacel	DTaP+IPV+Hib	Amount not specified in Package Insert
MRC-5	Manf residue	ProQuad	MMRV	Residual
MRC-5	Manf residue	Twinrix	HepA+HepB	≤2.5 mcg
MRC-5	Manf residue	Vaqta	HepA	Amount not specified in Package Insert
MRC-5	Manf residue	Varivax	Varicella	Residual components
MRC-5	Manf residue	Zostavax	Varicella Zoster	Residual
Neomycin	Antimicrobial	Fluad	Influenza	≤ 0.02 mcg
Neomycin	Antimicrobial	Fluvirin	Influenza	≤2.5 mcg
Neomycin	Antimicrobial	IPOL	IPV	< 5 ng
Neomycin	Antimicrobial	Kinrix	DTaP+IPV	≤ 0.05 ng
Neomycin	Antimicrobial	MMR-II	MMR	25 mcg
Neomycin	Antimicrobial	Pediarix	DTaP+HepB+IPV	≤ 0.05 ng
Neomycin	Antimicrobial	Pentacel	DTaP+IPV+Hib	< 4 pg
Neomycin	Antimicrobial	ProQuad	MMRV	< 16 mcg
Neomycin	Antimicrobial	Quadracel	DTaP+IPV	< 4 pg
Neomycin	Antimicrobial	RabAvert	Rabies	<1 mcg
Neomycin	Antimicrobial	Vaqta	HepA	<10 ppb (residual)
Neomycin	Antimicrobial	Varivax	Varicella	Trace amounts
Neomycin	Antimicrobial	Zostavax	Varicella Zoster	Trace amounts
Neomycin Sulfate	Antimicrobial	Afluria	Influenza	≤3 ng
Neomycin Sulfate	Antimicrobial	Imovax	Rabies	<150 mcg
Neomycin Sulfate	Antimicrobial	Twinrix	HepA+HepB	≤ 20 ng
Nonylphenol Ethoxylate	Surfactant	Fluvirin	Influenza	≤0.015% w/v
Octoxynol-10 (Triton X-100)	Surfactant	Fluarix Quad	Influenza	≤ 0.115 mg
Octoxynol-10 (Triton X-100)	Surfactant	Flublok	Influenza	≤ 100 mcg
Octylphenol Ethoxylate (Triton X-100)	Surfactant	FluZone	Influenza	≤ 150 mcg/0.5mL
Octylphenol Ethoxylate (Triton X-100)	Surfactant	FluZone High-Dose	Influenza	≤250 mcg
Octylphenol Ethoxylate (Triton X-100)	Surfactant	FluZone Intradermal Quad	Influenza	≤50 mcg
Octylphenol Ethoxylate (Triton X-100)	Surfactant	FluZone Quad	Influenza	≤250 mcg/0.5mL
Peptone	Medium Nutrient	DT	TD	Amount not specified in Package Insert
Peptone, Soy	Medium Nutrient	Comvax	Hib+HepB	Amount not specified in Package Insert
Peptone, Soy	Medium Nutrient	Prevnar	Pneumococcal 7-valent	Growth medium
Peptone, Soy	Medium Nutrient	Prevnar 13	Pneumococcal 13-valent	Growth medium
Peptone, Soy	Medium Nutrient	Recombivax HB	HepB	Ingredient of fermentation medium
Peptone, Soy	Medium Nutrient	Tetanus Toxoid	TT	Ingredient of fermentation medium
Phenol	Preservative, antibacterial	Comvax	Hib+HepB	Ingredient in purification procedure
Phenol	Preservative, antibacterial	PedvaxHIB	Hib+HepB	Ingredient in purification procedure
Phenol	Preservative	Pneumovax 23	Pneumococcal 23-valent	Saline containing 0.25% phenol
Phenol	Preservative, antibacterial	Typhim Vi	Typhoid	0.25%
Phenol Red Indicator	pH indicator, dye	Imovax	Rabies	20 mcg
Phenol Red Indicator	pH indicator, dye	Rotarix	Rotavirus	Ingredient of Growth Medium
Phosphate Buffer	Buffer	Afluria	Influenza	20 mcg monobasic potassium phosphate 80 mcg monobasic sodium phosphate 300 mcg dibasic sodium phosphate
Phosphate Buffer	Buffer	Cervarix	HPV	0.624 mg sodium dihydrogen phosphate dihydrate
Phosphate Buffer	Buffer	Engerix-B	HepB	0.98 mg/mL disodium phosphate dihydrate 0.71 mg/mL sodium dihydrogen phosphate dihydrate
Phosphate Buffer	Buffer	Flublok	Influenza	0.195 mcg monobasic sodium phosphate 1.3 mg dibasic sodium phosphate
Phosphate Buffer	Buffer	FluMist Quad	Influenza	0.96 mg/0.2 mL dose monobasic potassium phosphate 2.26 mg/dose dibasic potassium phosphate

Phosphate Buffer	Buffer	FluZone High-Dose	Influenza	Sodium phosphate-buffered isotonic sodium chloride solution - "quantity sufficient to appropriate volume"
Phosphate Buffer	Buffer	FluZone Intradermal Quad	Influenza	Sodium phosphate-buffered isotonic sodium chloride solution - "quantity sufficient to appropriate volume"
Phosphate Buffer	Buffer	FluZone Quad	Influenza	Sodium phosphate-buffered isotonic sodium chloride solution - "quantity sufficient to appropriate volume"
Phosphate Buffer	Buffer	FluZone Quad	Influenza	Sodium phosphate-buffered isotonic sodium chloride solution - "quantity sufficient to appropriate volume"
Phosphate Buffer	Buffer	Ixiaro	Japanese Encephalitis	potassium dihydrogen phosphate 0.5 mL phosphate buffered saline
Phosphate Buffer	Buffer	Menactra	Meningococcal	Amount not specified in Package Insert
Phosphate Buffer	Buffer	MMR-II	MMR	Sodium phosphate, amount not specified
Phosphate Buffer	Buffer	ProQuad	MMRV	36 mcg potassium phosphate dibasic 72 mcg potassium phosphate monobasic 0.34 mg sodium phosphate dibasic
Phosphate Buffer	Buffer	Rotarix	Rotavirus	Sodium phosphate in DMEM (medium)
Phosphate Buffer	Buffer	RotaTeq	Rotavirus	Sodium phosphate monobasic monohydrate
Phosphate Buffer	Buffer	Twinrix	HepA+HepB	Amount not specified in Package Insert
Phosphate Buffer	Buffer	Typhim Vi	Typhoid	0.065 mg disodium phosphate 0.023 mg monosodium phosphate
Phosphate Buffer	Buffer	Varivax	Varicella	0.08 mg potassium phosphate monobasic 0.45 mg sodium phosphate dibasic Sodium phosphate monobasic, trace amounts
Phosphate Buffer	Buffer	Zostavax	Varicella Zoster	0.10 mg potassium phosphate monobasic 0.57 mg sodium phosphate monobasic
Polymyxin	Antimicrobial	Fluvirin	Influenza	≤3.75 mcg
Polymyxin B	Antimicrobial	Afluria	Influenza	≤ 0.5 ng
Polymyxin B	Antimicrobial	IPOL	Polio	25 ng
Polymyxin B	Antimicrobial	Kinrix	DTaP+IPV	≤ 0.01 ng
Polymyxin B	Antimicrobial	Pediarix	DTaP+HepB+IPV	≤ 0.01 ng
Polymyxin B	Antimicrobial	Pentacel	DTaP+IPV+Hib	< 4 pg
Polymyxin B sulfate	Antimicrobial	Quadracel	DTaP+IPV	< 4 pg
Polysorbate 20	Surfactant	Flublok	Influenza	≤ 27.5 mcg (Tween 20)
Polysorbate 20	Surfactant	Havrix	HepA	0.05 mg/mL
Polysorbate 20	Surfactant	Twinrix	HepA+HepB	Amount not specified in Package Insert
Polysorbate 80	Surfactant	Boostrix	Tdap	≤ 100 mcg (Tween 80)
Polysorbate 80	Surfactant	Fluad	Influenza	1.175 mg
Polysorbate 80	Surfactant	Fluarix Quad	Influenza	≤ 0.550 mg (Tween 80)
Polysorbate 80	Surfactant	Flucelvac Quad	Influenza	≤1125 mcg (Tween 80)
Polysorbate 80	Surfactant	Flulaval Quad	Influenza	≤887 mcg
Polysorbate 80	Surfactant	Gardasil	HPV	50 mcg
Polysorbate 80	Surfactant	Gardasil 9	HPV	50 mcg
Polysorbate 80	Surfactant	Infanrix	DTaP	≤ 100 mcg (Tween 80)
Polysorbate 80	Surfactant	JE-Vax	Japanese Encephalitis	< 0.0007%
Polysorbate 80	Surfactant	Kinrix	DTaP+IPV	≤ 100 mcg (Tween 80)
Polysorbate 80	Surfactant	Pediarix	DTaP+HepB+IPV	≤ 100 mcg (Tween 80)
Polysorbate 80	Surfactant	Pentacel	DTaP+IPV+Hib	10 ppm
Polysorbate 80	Surfactant	Prevnar 13	Pneumococcal 13-valent	100 mcg
Polysorbate 80	Surfactant	Quadracel	DTaP+IPV	10 ppm
Polysorbate 80	Surfactant	RotaTeq	Rotavirus	Amount not specified in Package Insert
Polysorbate 80	Surfactant	Trumenba	Meningococcal Group B	0.018 mg
Porcine DNA	Residual Medium	Rotarix	Rotavirus	PCV-1
Porcine DNA	Residual Medium	RotaTeq	Rotavirus	PCV-1 and PCV-2
Potassium Aluminum Sulfate	Adjuvant	Comvax	Hib+HepB	Amount not specified in Package Insert
Potassium Aluminum Sulfate	Adjuvant	Recombivax HB	HepB	Amount not specified in Package Insert
Potassium Chloride	Buffer	Afluria	Influenza	20 mcg
Potassium Chloride	Buffer	ProQuad	MMRV	60 mcg
Potassium Chloride	Medium Nutrient	Rotarix	Rotavirus	Ingredient of DMEM medium
Potassium Chloride	Buffer	Varivax	Varicella	0.08 mg
Potassium Chloride	Buffer	Zostavax	Varicella Zoster	0.10 mg
Potassium Glutamate	Stabilizer	RabAvert	Rabies	1 mg
Protamine Sulfate	Protein Purifier	Ixiaro	Japanese Encephalitis	≤ 1 mcg/mL
Salts and Sugars, Inorganic	Medium Nutrient	BioThrax	Anthrax	Amount not specified in Package Insert
Salts, Inorganic	Medium Nutrient	Twinrix	HepA+HepB	Sodium chloride
Salts, Mineral	Adjust tonicity	ActHIB	Hib	0.4% sodium chloride in diluent
Salts, Mineral	Adjust tonicity	Afluria	Influenza	4.1 mg sodium chloride
Salts, Mineral	Adjust tonicity	Bexsero	Meningococcal Group B	3.125 mg sodium chloride
Salts, Mineral	Adjust tonicity	BioThrax	Anthrax	0.85% sodium chloride
Salts, Mineral	Adjust tonicity	Boostrix	Tdap	4.5 mg sodium chloride

Salts, Mineral	Adjust tonicity	Cervarix	HPV	4.4 mg sodium chloride
Salts, Mineral	Adjust tonicity	Comvax	Hib+HepB	0.9% sodium chloride
Salts, Mineral	Adjust tonicity	Engerix-B	HepB	9 mg/mL sodium chloride
Salts, Mineral	Adjust tonicity	Flublok	Influenza	4.4 mg sodium chloride
Salts, Mineral	Adjust tonicity	Gardasil	HPV	9.56 mg sodium chloride
Salts, Mineral	Adjust tonicity	Gardasil 9	HPV	9.56 mg sodium chloride
Salts, Mineral	Adjust tonicity	Hiberix	Hib	0.9% sodium chloride in diluent
Salts, Mineral	Adjust tonicity	Infanrix	DTaP	4.5 mg sodium chloride
Salts, Mineral	Adjust tonicity	Kinrix	DTaP+IPV	4.5 mg sodium chloride
Salts, Mineral	Adjust tonicity	Menhibrix	Meningococcal CY+Hib	0.9% sodium chloride
Salts, Mineral	Adjust tonicity	MMR-II	MMR	Sodium chloride, amount not specified
Salts, Mineral	Adjust tonicity	Pediarix	DTaP+HepB+IPV	4.5 mg sodium chloride
Salts, Mineral	Adjust tonicity	PedvaxHIB	Hib+HepB	0.9% sodium chloride
Salts, Mineral	Adjust tonicity	ProQuad	MMRV	2.4 mg sodium chloride
Salts, Mineral	Adjust tonicity	Recombivax HB	HepB	Ingredient of fermentation medium
Salts, Mineral	Adjust tonicity	Rotarix	Rotavirus	In DMEM (Dulbecco's Modified Eagle Medium)
Salts, Mineral	Adjust tonicity	Tenivac	Td	Sodium chloride, amount not specified
Salts, Mineral	Adjust tonicity	Twinrix	HepA+HepB	Sodium chloride, amount not specified
Salts, Mineral	Adjust tonicity	Typhim Vi	Typhoid	4.150 mg sodium chloride
Salts, Mineral	Adjust tonicity	Vaqta	HepA	0.9% sodium chloride
Salts, Mineral	Adjust tonicity	Varivax	Varicella	3.2 mg sodium chloride
Salts, Mineral	Adjust tonicity	YF-Vax	Yellow Fever	Diluent
Salts, Mineral	Adjust tonicity	Zostavax	Varicella Zoster	3.99 mg sodium chloride
Sodium Bicarbonate	Buffer	ProQuad	MMRV	0.17 mg
Sodium Borate	Buffer	Comvax	Hib+HepB	35 mcg (decahydrate)
Sodium Borate	Buffer	Gardasil	HPV	35 mcg
Sodium Borate	Buffer	Gardasil 9	HPV	35 mcg
Sodium Borate	Stabilizer	Vaqta	HepA	70 mcg
Sodium Citrate	Adjust pH	RotaTeq	Rotavirus	Amount not specified in Package Insert
Sodium Deoxycholate	Surfactant	Fluarix Quad	Influenza	≤ 65 mcg
Sodium Deoxycholate	Surfactant	Flulaval Quad	Influenza	≤ 50 mcg
Sodium Hydroxide		RotaTeq	Rotavirus	
Sodium Metabisulphite	Stabilizer	Ixiaro	Japanese Encephalitis	≤ 200 ppm
Sodium Pyruvate	Medium Nutrient	Rotarix	Rotavirus	in DMEM (medium)
Sodium Taurodeoxycholate	Protein Purifier	Afluria	Influenza	≤ 10 ppm (residual amounts)
Sorbitan Trioleate		Fluad	Influenza	1.172 mg
Sorbitol	Stabilizer, solvent	MMR-II	MMR	14.5 mg
Sorbitol	Stabilizer, solvent	ProQuad	MMRV	1.8 mg
Sorbitol	Stabilizer, solvent	Rotarix	Rotavirus	Amount not specified in Package Insert
Sorbitol	Stabilizer, solvent	YF-Vax	Yellow Fever	Amount not specified in Package Insert
Streptomycin	Antimicrobial	IPOL	Polio	200 ng
Succinate Buffer	Stabilizer	Prevnar 13	Pneumococcal 13-valent	295 mcg
Sucrose	Stabilizer	ActHIB	Hib	8.5%
Sucrose	Stabilizer	Bexsero	Meningococcal Group B	10 mg
Sucrose	Stabilizer	FluMist Quad	Influenza	13.68 mg/dose
Sucrose	Stabilizer	JE-Vax	Japanese Encephalitis	40% w/v
Sucrose	Stabilizer	Menhibrix	Meningococcal CY+Hib	12.6 mg
Sucrose	Stabilizer	MMR-II	MMR	1.9 mg
Sucrose	Stabilizer	Pentacel	DTaP+IPV+Hib	42.5 mg
Sucrose	Stabilizer	ProQuad	MMRV	≤ 21 mg
Sucrose	Stabilizer	Rotarix	Rotavirus	Amount not specified in Package Insert
Sucrose	Stabilizer	RotaTeq	Rotavirus	Amount not specified in Package Insert
Sucrose	Stabilizer	Varivax	Varicella	25 mg
Sucrose	Stabilizer	Vivotif	Typhoid	26-130 mg/capsule
Sucrose	Stabilizer	Zostavax	Varicella Zoster	31.16 mg
Thimerosal	Preservative	Afluria	Influenza	24.5 mcg mercury
Thimerosal	Manufacturing Residual	DT	DT	≤ 0.3 mcg mercury, trace amounts
Thimerosal	Preservative	Flulaval Quad	Influenza	< 25 mcg mercury
Thimerosal	Preservative	Fluvirin	Influenza	25 mcg mercury/dose in multi-dose vial; ≤ 1 mcg/dose mercury in prefilled syringe
Thimerosal	Preservative	Fluzone	Influenza	25 mcg mercury/0.5mL
Thimerosal	Preservative	Fluzone Quad	Influenza	25 mcg mercury in multi-dose vial
Thimerosal	Preservative	JE-Vax	Japanese Encephalitis	0.007%
Thimerosal	Preservative	Menomune	Meningococcal	25 mcg mercury/dose in multi-dose diluent None in single-dose
Thimerosal	Manufacturing Residue	Td	Td	≤ 0.3 mcg mercury, trace amounts
Vero Cells	Growth Medium	IPOL	Polio	Amount not specified in Package Insert
Vero cells	Medium Nutrient	Ixiaro	Japanese Encephalitis	Amount not specified in Package Insert
Vero Cells	Growth Medium	Kinrix	DTaP+IPV	Amount not specified in Package Insert
Vero Cells	Growth Medium	Pediarix	DTaP+HepB+IPV	Amount not specified in Package Insert

<b>Vero Cells</b>	Growth Medium	Rotarix	Rotavirus	Amount not specified in Package Insert
<b>Vero Cells</b>	Growth Medium	RotaTeq	Rotavirus	Amount not specified in Package Insert
<b>Vitamins</b>	Medium Nutrient	BioThrax	Anthrax	Ingredient of growth medium
<b>Vitamins</b>	Medium Nutrient	Cervarix	HPV	Ingredient of growth medium
<b>Vitamins</b>	Protein Purifier	Fluarix Quad	Influenza	≤ 0.135 mg α-tocopheryl hydrogen succinate
<b>Vitamins</b>	Protein Purifier	Flublok	Influenza	Ingredient of growth medium
<b>Vitamins</b>	Protein Purifier	Flulaval Quad	Influenza	≤ 320 mcg α-tocopheryl hydrogen succinate
<b>Vitamins</b>	Medium Nutrient	Gardasil	HPV	Ingredient of growth medium
<b>Vitamins</b>	Medium Nutrient	Gardasil 9	HPV	Ingredient of growth medium
<b>Vitamins</b>	Medium Nutrient	MMR-II	MMR	Ingredient in grown media
<b>Vitamins</b>	Medium Nutrient	Rotarix	Rotavirus	Amount not specified in Package Insert
<b>Xanthan</b>	Thickening agent	Rotarix	Rotavirus	Ingredient in diluent
<b>Yeast</b>	Medium Nutrient	Comvax	Hib+HepB	≤ 1% yeast protein
<b>Yeast</b>	Medium Nutrient	Engerix-B	HepB	≤ 5% yeast protein
<b>Yeast</b>	Medium Nutrient	Gardasil	HPV	< 7 mcg yeast protein/dose
<b>Yeast</b>	Medium Nutrient	Gardasil 9	HPV	< 7 mcg yeast protein/dose
<b>Yeast</b>	Medium Nutrient	Menveo	Meningococcal	Ingredient in growth medium
<b>Yeast</b>	Medium Nutrient	Pediarix	DTaP+HepB+IPV	≤ 5% yeast protein
<b>Yeast</b>	Medium Nutrient	Prevnar	Pneumococcal 7-valent	Ingredient of growth medium
<b>Yeast</b>	Medium Nutrient	Prevnar 13	Pneumococcal 13-valent	Ingredient of growth medium
<b>Yeast</b>	Medium Nutrient	Recombivax HB	HepB	< 1% yeast protein
<b>Yeast</b>	Medium Nutrient	Twinrix	HepA+HepB	≤ 5% yeast protein
<b>Yeast</b>	Medium Nutrient	Vivotif	Typhoid	Amount not specified in Package Insert

This information is correct to the best of our knowledge. Any inaccuracies should be reported to us at [info@hopkinsvaccine.org](mailto:info@hopkinsvaccine.org)

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