SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICAL PRODUCT
VARIVAX® (Refrigerated)
[Varicella Virus Vaccine Live (Oka/Merck), Refrigerator-Stable Formulation]

2. QUALITATIVE AND QUANTITATIVE COMPOSITION
VARIVAX (Refrigerated) is a live, attenuated virus vaccine (a lyophilized preparation of the Oka/Merck strain of varicella).

3. PHARMACEUTICAL FORM
VARIVAX is a lyophilized preparation of the Oka/Merck strain of varicella for subcutaneous injection.

VARIVAX (Refrigerated) when reconstituted is a clear, colorless to pale yellow liquid.

4. CLINICAL PARTICULARS
4.1 Therapeutic indications
VARIVAX (Refrigerated) is indicated for vaccination against varicella in individuals 12 months of age and older.

4.2 Posology and method of administration
FOR SUBCUTANEOUS ADMINISTRATION.

Do not inject intravenously.

Children 12 months to 12 years of age should receive a single 0.5 mL dose administered subcutaneously. If a second dose is administered, there should be a minimum interval of 3 months between doses.

Adolescents and adults 13 years of age and older should receive a 0.5 mL dose administered subcutaneously at elected date and a second 0.5 mL dose 4 to 8 weeks later.

The outer aspect of the upper arm (deltoid region) is the preferred site of injection.
Methods of administration

**Vial of diluent:**
The diluent should be stored separately at room temperature (20 to 25°C, 68 to 77°F), or in the refrigerator.

To reconstitute the vaccine, first withdraw 0.7 mL of diluent into the syringe to be used for reconstitution. Inject all of the diluent in the syringe into the vial of lyophilized vaccine and gently agitate to mix thoroughly. Withdraw the entire contents into a syringe and inject the total volume (about 0.5 mL) of reconstituted vaccine subcutaneously, preferably into the outer aspect of the upper arm (deltoid region) or the anterolateral thigh. **IT IS RECOMMENDED THAT THE VACCINE BE ADMINISTERED IMMEDIATELY AFTER RECONSTITUTION, TO MINIMIZE LOSS OF POTENCY. DISCARD IF RECONSTITUTED VACCINE IS NOT USED WITHIN 30 MINUTES.**

Do not freeze reconstituted vaccine.

**CAUTION:** A sterile syringe free of preservatives, antiseptics, and detergents should be used for each injection and/or reconstitution of VARIVAX (Refrigerated) because these substances may inactivate the vaccine virus.

It is important to use a separate sterile syringe and needle for each patient to prevent transmission of infectious agents from one individual to another.

To reconstitute the vaccine, use only the diluent supplied (Sterile Diluent for Merck, Sharp, & Dohme Live Virus Vaccines), since it is free of preservatives or other anti-viral substances which might inactivate the vaccine virus.

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. VARIVAX (Refrigerated) when reconstituted is a clear, colorless to pale yellow liquid.

### 4.3 Contraindication

History of hypersensitivity to any component of the vaccine, including gelatin.
History of anaphylactoid reaction to neomycin (each dose of reconstituted vaccine contains trace quantities of neomycin).

Blood dyscrasias, leukemia, lymphomas of any type, or other malignant neoplasms affecting the bone marrow or lymphatic systems.

Immunosuppressive therapy (including high-dose corticosteroids); however, VARIVAX (Refrigerated) is not contraindicated for use with topical corticosteroids or low-dose corticosteroids, as are commonly used for asthma prophylaxis. Individuals who are on immunosuppressant drugs are more susceptible to infections than healthy individuals. Vaccination with live attenuated varicella vaccine can result in a more extensive vaccine-associated rash or disseminated disease in individuals on immunosuppressant doses of corticosteroids.

Primary and acquired immunodeficiency states, including immunosuppression in association with AIDS or other clinical manifestations of infection with human immunodeficiency virus, except immunosuppression in asymptomatic children with CD4 T-lymphocyte percentages ≥25%.

Family history of congenital or hereditary immunodeficiency, unless the immune competence of the potential vaccine recipient is demonstrated.

Active untreated tuberculosis.

Any active febrile illness with fever >38.5°C (>101.3°F); however, low-grade fever itself is not a contraindication to vaccination.

Pregnancy; the possible effects of the vaccine on fetal development are unknown at this time. However, wild-type varicella is known to sometimes cause fetal harm. If vaccination of postpubertal females is undertaken, pregnancy should be avoided for three months following vaccination (see PREGNANCY).

4.4 Special warnings and precautions for use
Adequate treatment provisions, including epinephrine injection (1:1000), should be available for immediate use should an anaphylactoid reaction occur.

The duration of protection from varicella infection after vaccination with VARIVAX (Refrigerated) is unknown.

The safety and efficacy of VARIVAX (Refrigerated) have not been established in children and young adults who are known to be infected with human immunodeficiency virus with and without evidence of immunosuppression (see also CONTRAINDICATIONS).

Transmission
Post-marketing experience suggests that transmission of vaccine virus may occur rarely between healthy vaccinees who develop a varicella-like rash and healthy susceptible contacts. Transmission of vaccine virus from vaccinees who do not develop a varicella-like rash has also been reported.

Therefore, vaccine recipients should attempt to avoid, whenever possible, close association with susceptible high risk individuals for up to six weeks. In circumstances where contact with high-risk individuals is unavoidable, the potential risk of transmission of vaccine virus should be weighed against the risk of acquiring and transmitting wild-type varicella virus. Susceptible high risk individuals include:

- immunocompromised individuals
- pregnant women without documented history of chickenpox or laboratory evidence of prior infection
- newborn infants of mothers without documented history of chickenpox or laboratory evidence of prior infection.

4.5 Interaction with other medical products and forms of interaction
Vaccination should be deferred for at least 5 months following blood or plasma transfusions, or administration of immune globulin or varicella zoster immune globulin (VZIG).

Following administration of VARIVAX (Refrigerated), any immune globulin including VZIG should not be given for 2 months thereafter unless its use outweighs the benefits of vaccination.
Vaccine recipients should avoid use of salicylates for 6 weeks after vaccination with VARIVAX (Refrigerated) as Reye syndrome has been reported following the use of salicylates during wild-type varicella infection.

Results from clinical studies indicate that VARIVAX (Refrigerated) can be administered concomitantly with M-M-R II (Measles, Mumps, and Rubella Virus Vaccine Live), TETRAMUNE** (diphtheria and tetanus toxoids and pertussis vaccine adsorbed and Haemophilus b conjugate vaccine), or COMVAX* (Haemophilus influenzae type b conjugate and hepatitis B vaccine). If VARIVAX (Refrigerated) is not given concomitantly with M-M-R II, a 1-month interval between the 2 live virus vaccines should be observed.

Limited data from an experimental product containing varicella vaccine suggest that VARIVAX (Refrigerated) can be administered concomitantly with DTaP (diphtheria, tetanus, acellular pertussis) and PedvaxHIB* [Haemophilus b Conjugate Vaccine (Meningococcal Protein Conjugate)] using separate sites and syringes and with OPV (oral poliovirus vaccine).

4.6 Pregnancy and Lactation

PREGNANCY

There are no adequate and well-controlled studies in pregnant women. It is not known whether VARIVAX (Refrigerated) can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Therefore, VARIVAX (Refrigerated) should not be administered to pregnant females; furthermore, pregnancy should be avoided for three months following vaccination (see CONTRAINDICATIONS).

NURSING MOTHERS

It is not known whether varicella vaccine virus is secreted in human milk. Therefore, because some viruses are secreted in human milk, caution should be exercised if VARIVAX (Refrigerated) is administered to a nursing woman.

PEDIATRIC USE

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No clinical data are available on safety or efficacy of VARIVAX (Refrigerated) in children less than one year of age. Administration to infants under twelve months of age is not recommended.

4.7 Effects on the ability to drive and use machines
N/A

4.8 Undesirable effects

Clinical Studies
In clinical trials, varicella virus vaccine live (Oka/Merck) [hereafter called, varicella vaccine (Oka/Merck)] was administered to approximately 17,000 healthy children, adolescents, and adults. Varicella vaccine (Oka/Merck) was generally well tolerated.

In a double-blind placebo-controlled study among 956 healthy children and adolescents, 914 of whom were serologically confirmed to be susceptible to varicella, the only adverse reactions that occurred at a significantly greater rate in vaccine recipients than in placebo recipients were pain and redness at the injection site and varicella-like rash.

Children 1 to 12 Years of Age
In clinical trials involving approximately 8900 healthy children monitored for up to 42 days after a single dose of varicella vaccine (Oka/Merck), fever, injection-site complaints, or rashes were reported in decreasing order of frequency as follows: injection-site complaints (pain/soreness, swelling and/or erythema, rash, pruritus, hematoma, induration, stiffness); fever ≥102°F (38.9°C) oral; varicella-like rash (generalized, median 5 lesions); varicella-like rash (injection site, median 2 lesions).

Adolescents and Adults 13 Years of Age and Older
In clinical trials involving approximately 1600 healthy adolescents and adults, the majority of whom received two doses of varicella vaccine (Oka/Merck) and were monitored for up to 42 days after any dose, fever, injection-site complaints, or rashes were reported in decreasing order of frequency as follows: injection-site complaints (soreness, erythema, swelling, rash, pruritus, pyrexia, hematoma, induration, numbness); fever ≥100°F (37.8°C) oral; varicella-like rash (generalized, median 5 lesions); varicella-like rash (injection site, median 2 lesions).
The following additional side effects have been reported regardless of causality since the vaccine has been marketed:

*Body as a Whole:* Anaphylaxis (including anaphylactic shock) and related phenomena such as angioneurotic edema, facial edema, and peripheral edema; anaphylaxis in individuals with or without an allergic history.

*Eye Disorders:* Necrotizing retinitis (reported only in immunocompromised individuals).

*Gastrointestinal Disorders:* Nausea; vomiting.

*Hemic and Lymphatic System:* Aplastic anemia; thrombocytopenia (including idiopathic thrombocytopenic purpura (ITP)), lymphadenopathy.

*Infections and Infestations:* Varicella (vaccine strain).

*Nervous/Psychiatric:* Encephalitis; cerebrovascular accident; transverse myelitis; Guillain-Barré syndrome; Bell’s palsy; ataxia; febrile and non-febrile seizures; aseptic meningitis; dizziness; paresthesia; irritability.

*Respiratory:* Pharyngitis; Pneumonia/Pneumonitis; upper respiratory tract infection.

*Skin:* Stevens-Johnson syndrome; erythema multiforme; Henoch-Schönlein purpura; secondary bacterial infections of skin and soft tissue, including impetigo and cellulitis; herpes zoster.

### 4.9 Overdose

There are no data regarding overdose.

### 5. PHARMACOLOGICAL PROPERTIES

#### 5.1 Pharmacodynamic properties

N/A

#### 5.2 Pharmacokinetic properties

N/A

#### 5.3 Preclinical safety data

N/A

### 6. PHARMACEUTICAL PARTICULARS
6.1 List of excipients

VARIVAX* (Refrigerated) is a live, attenuated virus vaccine. This product is no preservative.

6.2 Incompatibilities

N/A

6.3 Shelf life

24 months

6.4 Special precautions for storage

Stability

VARIVAX (Refrigerated) has a minimum potency level of approximately 1350 PFU 30 minutes after reconstitution at room temperature (20 to 25°C, 68 to 77°F).

Storage

Vaccine Vial

During shipment, to ensure that there is no loss of potency, the vaccine must be maintained at a temperature of 2 to 8°C or colder (36 to 46°F or colder), but not exceed temperatures lower than -50°C (-58°F). Use of dry ice may subject VARIVAX to temperatures colder than -50°C (-58°F).

Before reconstitution, VARIVAX (Refrigerated) has a shelf-life of 24 months when refrigerated at 2 to 8°C or colder (36 to 46°F or colder). The vaccine may also be stored in a freezer; if subsequently transferred to a refrigerator, THE VACCINE SHOULD NOT BE REFROZEN.

Before reconstitution, protect from light.

DISCARD IF RECONSTITUTED VACCINE IS NOT USED WITHIN 30 MINUTES.

Combination pack with vaccine vial and diluent:

For combination packs with vaccine vial and diluent packaged together, store in the refrigerator at 2 to 8°C (36 to 46°F). DO NOT STORE THE COMBINATION PACK IN THE FREEZER.

6.5 Nature and content of container
VARIVAX is supplied as a single dose vial of lyophilized vaccine and a vial (0.7 mL) of diluent.

6.6 Special precautions for disposal and other handling
N/A

7. MARKETING AUTHORISATION HOLDER
MSD (Thailand) Ltd.
Bangkok, Thailand

8. MARKETING AUTHORISATION NUMBER(S)
1C 16/55 (NBC)

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION
29-May-2012

10. DATE OF REVISION OF THE TEXT
Apr-2016