

## SAFETY DATA SHEETS

**This SDS packet was issued with item:**

078429153

**The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).**

078429161



## MATERIAL SAFETY DATA SHEET

<b>IDENTITY</b>		Vira Shield 6- Killed Virus		Product # 383, 384	
<b>Section I</b>					
Manufacturer's Name Novartis Animal Health, US, Inc.		Emergency Telephone Number 800-454-3424			
Address (Number, Street, City, State, and Zip Code)		Telephone Number for Information 800-843-3386			
1447 140th Street		Date Prepared July 30, 2004		Revised Date: February 10, 2009	
Larchwood, IA 51241-9778		Signature of Preparer (optional)			
<b>Section II - Hazardous Ingredients/Identity Information</b>					
Hazardous Components (Specific Chemical Identity; Common Name(s))		OSHA PEL	ACGIH TLV	Other limits Recommended	% (optional)
Thimerosal (merthiolate)		0.01 mg of Hg/ m <sup>3</sup>		≤ 0.03	
Thimerosal is an organomercury compound.					
<b>Section III - Physical/Chemical Characteristics</b>					
Boiling Point	NA	Specific Gravity (H <sub>2</sub> O = 1)		NA	
Vapor Pressure (mm Hg.)	NA	Melting Point		NA	
Vapor Density (AIR = 1)	NA	Evaporation Rate (Butyl Acetate = 1)		NA	
Solubility in Water Yes					
Appearance and Odor Opaque liquid					
<b>Section IV - Fire and Explosion Hazard Data</b>					
Flash Point (Method Used) NA	Flammable Limits NA		LEL NA	UEL NA	
Extinguishing Media Dry chemical or carbon dioxide					
Special Fire Fighting Procedures Wear protective clothing and a self contained breathing apparatus as appropriate for the surrounding fire.					
Unusual Fire and Explosion Hazards None					

<b>Section V - Reactivity Data</b>			
Stability	Unstable		Conditions to Avoid Thimerosal will decompose with heat.
	Stable	X	
Incompatibility (Materials to Avoid) None			
Hazardous Decomposition or Byproducts Mercury, carbon monoxide, or carbon dioxide			
Hazardous Polymerization	May Occur		Conditions to Avoid None
	Will Not Occur	X	
<b>Section VI - Health Hazard Data</b>			
Route(s) of Entry: Inhalation? Skin? Ingestion?			
Yes Yes Yes			
Health Hazards (Acute and Chronic) The product may be irritating in the case of skin or eye contact. Thimerosal is a toxic compound.			
Carcinogenicity: NPT? No IARC Monographs? No OSHA Regulated? No			
Emergency and First Aid Procedures In case of skin or eye contact, flush with plenty of water. If the product is ingested, wash the mouth out with water and call a physician. In case of accidental injection, wash the puncture site and see a physician immediately.			
<b>Section VII - Precautions for Safe Handling and Use</b>			
Steps to Be Taken in Case Material Is Released or Spilled			
Clean up the spill with absorbent material, and afterwards, wash the site thoroughly with water.			
Waste Disposal Method			
Dispose in accordance with all applicable federal, state and local environmental regulations.			
Precautions to Be Taken in Handling and Storing			
Refrigerate the product (2° to 7° C) {35° to 45° F}. Keep the container closed when stored, and shake well before using.			
Other Precautions N/A			
<b>Section VIII - Control Measures</b>			
Respiratory Protection (Specify Type)			
An approved cartridge respirator for large spills			
Ventilation	Local Exhaust No	Special NA	
	Mechanical (General) Yes	Other NA	
Protective Gloves	Eye Protection		
Vinyl or nitrile	Goggles		
Other Protective Clothing or Equipment			
NA			
Work/Hygienic Practices			
Take precautions to prevent accidental injections.			

## Section IX - Regulatory Information

Component: Thimerosal

Mercury and mercury compounds are subject to CWA, SDWA, CAA, RCRA, CERCLA, SARA (Secs. 312 and 313), DOT and 29 CFR 1910.1200 regulations.

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This Material Safety Data Sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside our company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. Accordingly, no guarantee expressed or implied is made by Novartis Animal Vaccines, Inc. as to the results to be obtained based upon your use of the information, nor does Novartis Animal Vaccines, Inc. assume any liability arising out of your use of the information.

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# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Vira Shield 6

**Other means of identification**

Item Code ZD6120, AV6120

**Recommended use** Veterinary Vaccine

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company Name** Elanco Animal Health  
2500 Innovation Way  
Greenfield, IN 46140  
US

**Phone:** 1-877-Elanco1 (1-877-352-6261)

**Emergency Telephone:** Elanco Product Technical Support / Human or Animal Exposure Reporting:  
1-888-545-5973

**Email:** elanco\_sds@elanco.com

**Transportation Emergency Telephone:** CHEMTREC: 1-800-424-9300  
(Outside U.S. 1-703-527-3887)

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Aspiration hazard Category 1

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement**

H304 May be fatal if swallowed and enters airways.

**Precautionary statement**

**Prevention** Not available.

**Response**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P331 Do NOT induce vomiting.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** Accidental injection may cause local swelling, irritation or necrosis at the injection site. Get medical attention immediately. See also section 4.

**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Mineral Oil Adjuvant SO 3-003		Mixture	20

Chemical name	Common name and synonyms	CAS number	%
Formaldehyde		50-00-0	<= 0.074
Thimerosal		54-64-8	<= 0.01

**Composition comments** \* Mineral Oil Adjuvant contains up to 92% Light Mineral Oil (CAS 8042-47-5)  
Remaining components of this product are non-hazardous and/or are present at concentrations below reportable levels.

#### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention.
<b>Most important symptoms/effects, acute and delayed</b>	Aspiration may cause pulmonary edema and pneumonitis. Accidental injection may cause local swelling, irritation or necrosis at the injection site.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of accidental self-injection of oil emulsion vaccines, get medical attention immediately.  SEEK IMMEDIATE MEDICAL TREATMENT at nearest Hospital Emergency Room even if only a very small amount is injected, as failure to treat may result in the mineral oil adjuvant causing sterile abscess and/or loss of affected finger or thumb. If pain persists for more than 12 hours after medical examination, seek additional medical advice.  To the Doctor: This product contains mineral oil. Accidental injection with this oil-based product, even in small quantities, can cause intense swelling which may, for example, result in ischaemic necrosis and the loss of a digit. Expert PROMPT, surgical attention is required and may necessitate early incision and irrigation of the injected area, especially where there is involvement of finger pulp or tendon.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	Not available.
<b>Specific hazards arising from the chemical</b>	Not applicable.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Not available.
<b>Methods and materials for containment and cleaning up</b>	Prevent entry into waterways, sewer, basements or confined areas.  Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

<b>Precautions for safe handling</b>	Use a needle guard to help prevent self-injection. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in original tightly closed container.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Formaldehyde (CAS 50-00-0)	STEL	2 ppm
	TWA	0.75 ppm

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Light Mineral Oil (CAS 8042-47-5)	PEL	5 mg/m3	Mist.

#### US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Thimerosal (CAS 54-64-8)	Ceiling	0.04 mg/m3
	TWA	0.01 mg/m3

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Formaldehyde (CAS 50-00-0)	Ceiling	0.3 ppm	
Light Mineral Oil (CAS 8042-47-5)	TWA	5 mg/m3	Inhalable fraction.
Thimerosal (CAS 54-64-8)	STEL	0.03 mg/m3	
	TWA	0.01 mg/m3	

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Formaldehyde (CAS 50-00-0)	Ceiling	0.1 ppm	
	TWA	0.016 ppm	
Light Mineral Oil (CAS 8042-47-5)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
Thimerosal (CAS 54-64-8)	STEL	0.03 mg/m3	
	TWA	0.01 mg/m3	

**Biological limit values** No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

#### US - California OELs: Skin designation

Thimerosal (CAS 54-64-8) Can be absorbed through the skin.

#### US - Tennessee OELs: Skin designation

Thimerosal (CAS 54-64-8) Can be absorbed through the skin.

#### US ACGIH Threshold Limit Values: Skin designation

Thimerosal (CAS 54-64-8) Can be absorbed through the skin.

#### US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Thimerosal (CAS 54-64-8) Can be absorbed through the skin.

**Appropriate engineering controls** Ensure adequate ventilation, especially in confined areas.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Safety glasses.

#### Skin protection

**Hand protection** Use a needle guard to help prevent self-injection. Wear appropriate chemical resistant gloves.

**Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Not available.

**General hygiene considerations**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. Physical and chemical properties****Appearance**

<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.

**Upper/lower flammability or explosive limits**

<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.

<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.

**Solubility(ies)**

<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.

<b>Auto-ignition temperature</b>	Not available.
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<b>Decomposition temperature</b>	Not available.
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<b>Viscosity</b>	< 20.5 mm <sup>2</sup> /s at 40 C
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**Other information**

<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

**10. Stability and reactivity**

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
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<b>Chemical stability</b>	Material is stable under normal conditions.
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<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
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<b>Conditions to avoid</b>	Contact with incompatible materials.
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<b>Incompatible materials</b>	Strong oxidizing agents.
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<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.
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**11. Toxicological information****Information on toxicological effects**

<b>Acute toxicity</b>	May be fatal if swallowed and enters airways.
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<b>Components</b>	<b>Species</b>	<b>Test Results</b>
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Formaldehyde (CAS 50-00-0)

**Acute****Inhalation**

LC50	Rat	10500 mg/m <sup>3</sup> , 4 hours
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Components	Species	Test Results
Oral LD50	Rat	640 mg/kg
Thimerosal (CAS 54-64-8)		
Acute		
Oral LD50	Rat	75 mg/kg
Skin corrosion/irritation	Rabbit: Corrosive. (Formaldehyde) No skin irritation. (0.1% Thimerosal) Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Rabbit: Corrosive. (Formaldehyde) Slight irritation. (0.1% Thimerosal) Based on available data, the classification criteria are not met.	
Respiratory or skin sensitization		
ACGIH sensitization	Dermal sensitization Respiratory sensitization	
FORMALDEHYDE (CAS 50-00-0)		
Respiratory sensitization	Exposure to formaldehyde may cause respiratory sensitization in some individuals or aggravate pre-existing asthmatic conditions. Based on available data, the classification criteria are not met.	
Skin sensitization	May cause an allergic skin reaction. (Formaldehyde) Risk of sensitization or allergic reactions among sensitive individuals. (Thimerosal) Based on available data, the classification criteria are not met.	
Germ cell mutagenicity	Result in genetic toxicity assays (in vitro and in vivo): Mixed results (Formaldehyde) Result in genetic toxicity assays (in vitro and in vivo): Negative (Thimerosal) Based on available data, the classification criteria are not met.	
Carcinogenicity	May cause cancer. (Formaldehyde) Based on available data, the classification criteria are not met.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Formaldehyde (CAS 50-00-0)	1 Carcinogenic to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Formaldehyde (CAS 50-00-0)	Cancer	
US. National Toxicology Program (NTP) Report on Carcinogens		
Formaldehyde (CAS 50-00-0)	Known To Be Human Carcinogen.	
Reproductive toxicity	No effects identified in animal studies. (Formaldehyde) May damage fertility or the unborn child. (Thimerosal) Based on available data, the classification criteria are not met.	
Specific target organ toxicity - single exposure	May cause respiratory irritation. (Formaldehyde) Based on available data, the classification criteria are not met.	
Specific target organ toxicity - repeated exposure	No significant target organ toxicity reported. (Formaldehyde) May cause damage to organs through prolonged or repeated exposure. (Thimerosal) Based on available data, the classification criteria are not met.	
Aspiration hazard	May be fatal if swallowed and enters airways. (Mineral oil)	
Further information	Accidental injection may cause local swelling, irritation or necrosis at the injection site.	

## 12. Ecological information

### Ecotoxicity

Components	Species	Test Results
Formaldehyde (CAS 50-00-0)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) 29 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 24.1 mg/l, 96 hours
<i>Chronic</i>		
Fish	NOEC	Medaka, high-eyes (Oryzias latipes) > 48 mg/l, 28 days

Components	Species		Test Results
Thimerosal (CAS 54-64-8)			
Aquatic			
Acute			
Fish	LC50	Bullhead, catfish (Ictalurus sp.)	7.5 mg/l, 24 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Partition coefficient n-octanol / water (log Kow)			
Formaldehyde		0.35	
Mobility in soil	No data available.		
Other adverse effects	Not available.		
13. Disposal considerations			
Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.		
14. Transport information			
DOT			
Not regulated as dangerous goods.			
IATA			
Not regulated as dangerous goods.			
IMDG			
Not regulated as dangerous goods.			
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.		
15. Regulatory information			
US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.		
Toxic Substances Control Act (TSCA)			
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)			
Not regulated.			
CERCLA Hazardous Substance List (40 CFR 302.4)			
Formaldehyde (CAS 50-00-0)		Listed.	
SARA 304 Emergency release notification			
FORMALDEHYDE (CAS 50-00-0)		100 LBS	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)			
Formaldehyde (CAS 50-00-0)		Cancer Skin sensitization Respiratory sensitization Eye irritation Skin irritation respiratory tract irritation Acute toxicity Flammability	
Superfund Amendments and Reauthorization Act of 1986 (SARA)			
SARA 313 (TRI reporting)			
Not regulated.			
Other federal regulations			
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List			
Formaldehyde (CAS 50-00-0)			
Thimerosal (CAS 54-64-8)			

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Formaldehyde (CAS 50-00-0)

**US state regulations**

WARNING: This product contains a chemical known to the State of California to cause cancer.

**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Formaldehyde (CAS 50-00-0)

Listed: January 1, 1988

**California Proposition 65 - CRT: Listed date/Developmental toxin**

Thimerosal (CAS 54-64-8)

Listed: July 1, 1990

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Formaldehyde (CAS 50-00-0)

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision****Issue date** 10-05-2017**Revision date** 04-11-2019**Version #** 02**Disclaimer**

As of the date of issuance, we are providing available information relevant to the handling of this material in the workplace. All information contained herein is offered with the good faith belief that it is accurate. THIS SAFETY DATA SHEET SHALL NOT BE DEEMED TO CREATE ANY WARRANTY OF ANY KIND (INCLUDING WARRANTY OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE). In the event of an adverse incident associated with this material, this safety data sheet is not intended to be a substitute for consultation with appropriately trained personnel. Nor is this safety data sheet intended to be a substitute for product literature which may accompany the finished product.

For additional information contact:

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