# MATERIAL SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th><strong>Product Name:</strong></th>
<th>3Flex™</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product No.:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>MSDS ID#:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>GHS Product Identifier:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Synonyms:</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Molecular Formula: Mixture, not applicable  
Molecular Weight: Not applicable  
CAS Number: Mixture, not applicable  
Chemical Family: Vaccine

**Manufacturer:**  
Boehringer Ingelheim Vetmedica, Inc.  
2621 North Belt Hwy  
St. Joseph, MO 64506-2002

**Transportation Emergency:**  
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

**Medical Emergency (24HR):** (866) 638-2226  
**Non-Emergency Telephone:** (800) 821-7467

**Intended Use:**  
For the vaccination of healthy, susceptible swine 3 weeks of age or older as an aid in the prevention of lymphoid depletion, inflammation and colonization of lymphoid tissue associated with Porcine Circovirus Type 2 (PCV₂), as an aid in the reduction of disease caused by *Mycoplasma hyopneumoniae*, and as an aid in the reduction of respiratory disease associated with Porcine Reproductive and Respiratory Syndrome virus. Indicated for use in PRRS virus positive herds only.

## 2 HAZARDS IDENTIFICATION

**Physical State:** Modified live viruses supplied in a glass vial and a solution of inactivated bacterin is supplied in a high density plastic bottle.  
**Color:** Clear to slightly turbid rose to brown  
**Odor:** No data available
WARNING!
For use in swine only.
Not for human use.
Allergic reactions can occur.

Precautionary Statements:
Accidental human injection can cause serious local reactions or anaphylactic reaction and systemic effects.
Keep only in original container.
Keep at a temperature between 2 - 7°C.
Do not freeze.
Store out of direct sunlight.
Fire-fighting: Use foam, carbon dioxide, dry powder and water fog or material appropriate for surrounding fire.
Avoid contact with eyes, skin and clothing.
Wear suitable gloves and eye/face protection.
Spills: Cover with absorbent or contain. Collect and incinerate.
In case of accident/exposure or if you feel unwell, seek medical advice immediately (show the label where possible).
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
If swallowed, seek medical advice immediately and show this container or label.
In case of contact with eyes, flush with gently flowing fresh water thoroughly.
Wash skin thoroughly with soap and water after handling.
This material and its container must be disposed of in a safe way.
Keep out of reach of children.
Keep away from food, drink, and animal feedstuffs.

Potential Health Effects

Inhalation: Not expected to be an inhalation hazard with prescribed use.

Eye Contact: Not expected to be a hazard to the eye with prescribed use. Exposure to liquid in eye may cause mild transient eye irritation.

Skin Contact: Not expected to be a hazard to the skin. Can cause hypersensitive reactions. May cause skin sensitization by contact.

Ingestion: Not expected to be an ingestion hazard with prescribed use. Ingestion may cause nausea and systemic effects.

Injection: Swelling at injection site may occur.

Chronic Health Effects: Possible hypersensitization (development of abnormal sensitivity).
Target Organ(s): Reproductive System, Respiratory System, Skin

OSHA Regulatory Status: Non-hazardous, exempt

Environment: No data available

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No.</th>
<th>CAS No.</th>
<th>Concentration</th>
<th>Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactivated baculo-expressed PCV&lt;sub&gt;2&lt;/sub&gt; ORf2</td>
<td>----</td>
<td>----</td>
<td>proprietary</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Inactivated bacterin – <em>Mycoplasma hyopneumoniae</em></td>
<td>----</td>
<td>----</td>
<td>proprietary</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Porcine Reproductive &amp; Respiratory Syndrome-Circovirus, Reproductive &amp; Respiratory Form, Type 2 (modified live virus)</td>
<td>----</td>
<td>-----</td>
<td>proprietary</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Additives</td>
<td>----</td>
<td>----</td>
<td>proprietary</td>
<td>----</td>
<td>*</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>200-001-8</td>
<td>50-00-0</td>
<td>≤ 0.74 g/L</td>
<td>T; C; C3 R23/24/25/ R34 R40 R43</td>
<td>*</td>
</tr>
</tbody>
</table>

*Used to inactivate virus and subsequently removed from solution. Concentration represents maximum remaining amount by percent weight which is below USDA allowable limits.

The full texts for all R-Phrases are displayed in Section 16, if applicable.

### 4 FIRST AID MEASURES

**General:** Animals or persons developing anaphylactic (life-threatening) reactions, such as difficulty in breathing or unconsciousness, must receive immediate medical attention.

**Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

**Eye Contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation or rash occurs, seek medical advice. Wash contaminated clothing before reuse.

**Ingestion:** Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

**Injection:** In case of accidental injection, wash the site thoroughly. Contact a physician immediately.

**Note to Physician:** For animal injection only. Not for human use.

### 5 FIRE-FIGHTING MEASURES
Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder and water fog or material appropriate for surrounding fire.

Unsuitable Extinguishing Media: None known

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.

Unusual Fire & Explosion Hazards: None known

Hazardous Combustion Products: Carbon monoxide, carbon dioxide

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate personal protective equipment (See Section 8).

Spill Cleanup Methods: STEPS TO BE TAKEN IF SIGNIFICANT QUANTITIES OF PRODUCT IS SPILLED: Absorb or cover with dry earth, sand or other non-combustible material. Place spillage in appropriate container for waste disposal. Wash contaminated clothing before use.

Environmental Precautions: Prevent runoff from entering drains, sewers or streams. Dike for later disposal.

7 HANDLING AND STORAGE

Handling: HANDLING SIGNIFICANT QUANTITIES OF PRODUCT: Avoid contact with eyes, skin or clothing. Avoid accidental injection. Wash hand thoroughly after handling.

Storage: Store at 2°-7° C (35°-45° F). Do not freeze. Store out of direct sunlight to protect product integrity. Shake well before using.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

For Industrial Exposures:

Exposure Limits:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Source</th>
<th>Type</th>
<th>Exposure Limits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>ACGIH</td>
<td>Ceiling Exposure Limit</td>
<td>0.3 ppm</td>
<td>Sensitizer, Suspected cancer hazard, Upper respiratory and eye irritation</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>OSHA</td>
<td>Action Level</td>
<td>0.5 ppm</td>
<td>Cancer-suspect agent</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>OSHA</td>
<td>TWA</td>
<td>0.75 ppm</td>
<td>----</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>OSHA</td>
<td>STEL</td>
<td>2 ppm</td>
<td>----</td>
</tr>
</tbody>
</table>

Where lower governmentally imposed exposure limits exist, such limits should take precedence.
**Engineering Controls:** Not generally required when handling vials or containers. Good ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Respiratory Protection:** Not generally required when handling vials or containers. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA standard 63 FR 1152, January 8, 1998. Respirator type: NIOSH approved organic vapor respirator.

Europe: Wear appropriate personal protective equipment according to the Council Directive 89/686/EEC (4) and the appropriate CEN standards.

**PERSONAL PROTECTIVE EQUIPMENT:** Not generally required when handling containers. If containers are compromised or exposure to the active ingredient or mixture is likely wear:

**Eye Protection:** Wear safety glasses with side shields (or goggles).

**Hand Protection:** Wear suitable gloves.

**Skin Protection:** Wear protective clothing appropriate for the risk of exposure.

**Hygiene Measures:** Eye bath, washing facilities

---

**PHYSICAL AND CHEMICAL PROPERTIES**

- **Color:** Clear to slightly turbid rose to brown
- **Odor:** No data available
- **Odor Threshold:** No data available
- **Physical State:** Modified live viruses supplied in a glass vial and a solution of inactivated bacterin is supplied in a high density plastic bottle.
- **pH:** No data available
- **Melting Point:** No data available
- **Freezing Point:** No data available
- **Boiling Point:** No data available
- **Flash Point:** No data available
- **Flammability Limit – Upper (%):** No data available
- **Flammability Limit – Lower (%):** No data available
- **Evaporation rate:** No data available
- **Vapor Pressure:** No data available
- **Vapor Density (Air=1):** No data available
- **Specific Gravity:** No data available
- **Solubility:** No data available
- **Partition Coefficient (n-Octanol/water):** No data available
- **Autoignition Temperature:** Not applicable
- **Decomposition Temperature:** No data available
<table>
<thead>
<tr>
<th>10</th>
<th>STABILITY AND REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability:</td>
<td>Stable</td>
</tr>
<tr>
<td><strong>Conditions to Avoid:</strong></td>
<td>Temperatures below 2° C (35° F), direct sunlight</td>
</tr>
<tr>
<td><strong>Incompatible Materials:</strong></td>
<td>Strong oxidizing agents</td>
</tr>
<tr>
<td><strong>Hazardous Decomposition Products:</strong></td>
<td>None known</td>
</tr>
<tr>
<td><strong>Possibility of Hazardous Reactions:</strong></td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11</th>
<th>TOXICOLOGICAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Flex™ is considered non-toxic.</td>
<td></td>
</tr>
<tr>
<td><strong>Listed Carcinogens:</strong></td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12</th>
<th>ECOLOGICAL INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecotoxicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Persistence and degradability:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Mobility in soil:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Other adverse effects:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Germany WGK:</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13</th>
<th>DISPOSAL CONSIDERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information:</strong></td>
<td>Dispose of in accordance with local, state, federal, national or international regulations.</td>
</tr>
<tr>
<td><strong>Disposal Methods:</strong></td>
<td>No specific disposal method required. Do not empty into drains. Dispose of this material and its container in a safe way. Do not contaminate water, food, or feed by disposal.</td>
</tr>
<tr>
<td><strong>RCRA Information:</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14</th>
<th>TRANSPORT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOT:</strong></td>
<td>Not regulated</td>
</tr>
<tr>
<td><strong>TDG:</strong></td>
<td>Not regulated</td>
</tr>
<tr>
<td><strong>ADR/RID:</strong></td>
<td>Not regulated</td>
</tr>
<tr>
<td><strong>IATA:</strong></td>
<td>Not regulated</td>
</tr>
<tr>
<td><strong>IMDG:</strong></td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

| 15 | REGULATORY INFORMATION |
Canadian Controlled Products Regulations: This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS Classification: Non-controlled

Inventory Status

This material is not listed on the following inventories: TSCA, DSL, AICS, EINECS, IECSC, ENCS, PICCS, KECI, and NZIoC. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use.

Canada CEPA Schedule 1 - Formaldehyde

US Regulations
CERCLA Hazardous Substance List (40 CFR 302.4): None listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370): Not Regulated.

Section 313 Toxic Release Inventory (40 CFR 372): None listed.

State Regulations
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Formaldehyde (gas)
Massachusetts Right-To-Know List: Formaldehyde
Minnesota Hazardous Substances List: None listed.
New Jersey Right-To-Know List: None listed.
Pennsylvania Right-To-Know List: Formaldehyde
Rhode Island Right-To-Know List: Formaldehyde

European Regulations
Austria MAK List (Annex I): Formaldehyde
Denmark (Annex 3.6): Formaldehyde
Norway (List of Dangerous Substance): None listed.
Sweden (Annex 3): Formaldehyde
Switzerland (Toxins List 1): Formaldehyde
Hazard Ratings

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity Hazard</th>
<th>Special Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* – Chronic health effect; 0 – Minimal; 1 – Slight; 2 – Moderate; 3 – Serious; 4 – Severe

EU Symbol and R Phrase Definitions

T – Toxic
C – Corrosive
C3 – Carcinogen category 3
R23/24/25 – Toxic by inhalation, in contact with skin and if swallowed.
R34 – Causes burns.
R40 – Limited evidence of a carcinogenic effect.
R43 – May cause sensitization by skin contact.

ABBREVIATIONS:
BIV - Boehringer Ingelheim Vetmedica, Inc.
N/A - Not applicable
N/E - Not established
pph - parts per hour

References:
1. 3Flex™ Label
3. GHS Manual

Revision Information: New MSDS
Prepared by: Boehringer Ingelheim Vetmedica, Inc.
Issue Date: 09/02/2010

Disclaimer: The information provided herein is offered by Boehringer Ingelheim Vetmedica, Inc. (“BIV”) in good faith as accurate as of the date hereof, but without guarantee. This information includes information which has been generated by other parties and provided to BIV, and which BIV has not independently verified. The information provided herein relates only to the specific product designated, and may not be valid where such product is used in combination with any other materials or in any process. The information provided herein is offered solely for your consideration, investigation and verification, and Boehringer Ingelheim Vetmedica, Inc. (“BIV”) expressly disclaims all liability for reliance thereon. BIV EXPRESSLY DISCLAIMS ALL WARRANTIES OF EVERY KIND AND NATURE (INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. In addition, since the conditions of use and suitability of the product for particular uses are beyond BIV’s control, ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER, AND BIV EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY AS TO ANY RESULTS OBTAINED OR ARISING FROM ANY USE OF THE PRODUCT. Use or transmission of the information contained herein in any other format than the format as presented is strictly prohibited. Nothing
herein shall be construed as permission or recommendation for the use of the product in a manner that might infringe an existing patent. BIV neither represents nor warrants that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

© Copyright 2010 Boehringer Ingelheim Vetmedica, Inc. All rights reserved.