# SAFETY DATA SHEETS

## This SDS packet was issued with item:

078431731

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

078431723 078431749

# MATERIAL SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Express® FP 10-HS
**Product No. :** Not applicable
**MSDS ID# :** Not applicable
**GHS Product Identifier:** Not applicable

**Synonyms:**
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

**Emergency Telephone*:***
Transportation Emergency: (800) 424-9300

Medical Emergency (24HR): (866) 638-2226

**Non-emergency Telephone:** (800) 821-7467

**Intended Use:** For the vaccination of healthy, susceptible cows and replacement heifers prior to breeding to prevent persistently infected calves caused by Bovine Virus Diarrhea Types 1 and 2. For vaccination of healthy, susceptible cattle as an aid in the reduction of respiratory diseases caused by Infectious Bovine Rhinotracheitis (IBR) virus, Bovine Virus Diarrhea (BVD) Types 1 and 2, Parainfluenza$_3$ ($PI_3$) virus, Bovine Respiratory Syncytial Virus (BRSV), and leptospirosis caused by *Leptospira canicola, L. grippotyphosa, L. hardjo, L. icterohaemorrhagiae,* and *L. pomona,* and as an aid in the prevention of disease caused by *Haemophilus somnus.*

## 2 HAZARDS IDENTIFICATION

**Emergency Overview**

**Physical State:** Lyophilized modified live virus is supplied in a glass vial and a solution of inactivated bacterin is supplied in a high density plastic bottle.
**Color:** White opaque
**Odor:** No data available

**WARNING!**
**For use in cattle 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.
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.
Wash thoroughly with soap and water after handling.
Wear suitable gloves and eye/face protection.
Spills: Cover with absorbent or contain. Collect and incinerate.
In case of accident 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.
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.

**Description:**

For the vaccination of healthy, susceptible cows and replacement heifers prior to breeding to prevent persistently infected calves caused by Bovine Virus Diarrhea Types 1 and 2. For vaccination of healthy, susceptible cattle as an aid in the reduction of respiratory diseases caused by Infectious Bovine Rhinotracheitis (IBR) virus, Bovine Virus Diarrhea (BVD) Types 1 and 2, Parainfluenza$_3$ (PI$_3$) virus, Bovine Respiratory Syncytial Virus (BRSV), and leptospirosis caused by *Leptospira canicola, L. grippotyphosa, L. hardjo, L. icterohaemorrhagiae,* and *L. pomona,* and as an aid in the prevention of disease caused by *Haemophilus somnus.*

Vaccine is to be given 2 mL subcutaneously using aseptic technique. If initial vaccination, repeat with BRSV, *H. somnus* and *Leptospira* vaccines in 14-28 days. Calves vaccinated before 6 months of age should be revaccinated at 6 months. A 2mL booster is recommended once annually. **Cows and heifers:** Using aseptic technique, annually inject a single 2 mL dose subcutaneously at or about 4 weeks prior to breeding. If initial vaccination, see above.

**Acute effect:** Rarely, severe allergic reactions may occur that require immediate veterinary care. Antidote: Epinephrine.

**Precautions/Contraindications:** Do not vaccinate within 21 days before slaughter. Stressed cattle should not be vaccinated. BVD vaccine is contraindicated in persistently infected cattle and use should be limited only to healthy immunocompetent, unstressed cattle.

**Overdosage:** None known.

**ADVERSE REACTIONS TO PRODUCT:** Anaphylactoid reactions may occur but are rare.

**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):** Gastrointestinal System, Reproductive System, Respiratory System

**Potential Physical Effects:** Can cause skin sensitization.

**OSHA Regulatory Status:** Nonhazardous, exempt

**Environment:** No data available

## 3 COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | EC No. | CAS- No. | Concentration | Classification | Notes |
|---|---|---|---|---|---|
| Bovine Rhinotracheitis Virus (modified live) | ---- | ---- | proprietary | ---- | --- |
| Bovine Virus Diarrhea – Type 1 and 2 (modified live) | ---- | ---- | proprietary | ---- | --- |
| Bovine Respiratory Syncytial Virus (modified live) | ---- | ---- | proprietary | ---- | --- |
| Parainfluenza Type 3 (modified live) | ---- | ---- | proprietary | ---- | --- |
| Leptospira canicola (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| Leptospira grippotyphosa (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |

| | | | | | |
|---|---|---|---|---|---|
| Leptospira hardjo (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| Leptospira icterohaemorrhagiae (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| Leptospira pomona (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| Haemophilus somnus (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| Neomycin sulfate | 2157731 | 1405-10-3 | proprietary | ---- | * |
| Formaldehyde | 2000018 | 50-00-0 | ≤ 0.74 g/L | T; C; C3 R23/24/25/ R34 R40 R43 | * |

The full texts for all R-Phrases are displayed in Section 16, if applicable.
* Neomycin sulfate is used as preservative.
* Used to inactivate virus and subsequently removed from solution. Concentration represents maximum remaining amount by percent weight which is below USDA allowable limits.

## 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 use in cattle only.
**Antidote:** Epinephrine is indicated for anaphylactoid reactions.

## 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

**Flammability Class:** 0

## 6 ACCIDENTAL RELEASE MEASURES

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

**Spill Cleanup Methods:** Small liquid spill: Use a non-combustible material like vermiculite, earth or sand to soak up the product and place into container for later disposal. Incinerate. For large liquid spill: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Incinerate.

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

## 7 HANDLING AND STORAGE

**Handling:** Avoid contact with eyes, skin and clothing. Avoid accidental injection. Wash thoroughly with soap and water after handling. Use only with adequate ventilation.

**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. Use entire contents when first opened.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

**For Industrial Exposures:**

**Exposure Limits:**

| | | | | |
|---|---|---|---|---|
| Formaldehyde | ACGIH | 8-HR TWA | 0.3 ppm | Irritation, cancer |
| Formaldehyde | OSHA | Action Level | 0.5 ppm | Cancer-suspect agent |
| Formaldehyde | Austria | TWA | 0.5 $mg/m^3$ | Justifiably suspected of carcinogenic potential. Skin absorption. Sensitizer |
| Formaldehyde | Alberta | 8-HR TWA | 0.92 $mg/m^3$ | Irritation |
| Formaldehyde | British Columbia | 8-HR TWA | 0.3 ppm | Capable of causing respiratory, dermal or conjunctival sensitization. |
| Formaldehyde | Ontario | 8-HR TWA | 1.5 $mg/m^3$ | ---- |
| Formaldehyde | Quebec | Ceiling | 3 $mg/m^3$ | ---- |

| | | | | |
|---|---|---|---|---|
| | | Exposure Value | | |
| Formaldehyde | Belgium | 15-minute STEL | 0.38 mg/$m^3$ | Irritant |
| Formaldehyde | Denmark | Ceiling | 0.4 mg/$m^3$ | ---- |
| Formaldehyde | Finland | 8-HR Limit | 0.37 mg/$m^3$ | ---- |
| Formaldehyde | France | Short Term Limit | 1 ppm | ---- |
| Formaldehyde | Germany | 8-HR TWA | 0.37 mg/$m^3$ | |
| Formaldehyde | Greece | 8-HR TWA | 0.25 mg/$m^3$ | ---- |
| Formaldehyde | Iceland | 8-HR TWA | 0.4 mg/ $m^3$ | Allergenic substance |
| Formaldehyde | Ireland | 8-HR TWA | 2.5 mg/$m^3$ | ---- |
| Formaldehyde | Italy | Ceiling limit | 0.3 ppm | --- |
| Formaldehyde | Netherlands | MAC TWA | 1.5 mg/$m^3$ | ---- |
| Formaldehyde | Norway | TLV | 0.6 mg/$m^3$ | Allergenic substance |
| Formaldehyde | Portugal | Ceiling Exposure limit | 0.3 ppm | Sensitizer, suspected human carcinogen |
| Formaldehyde | Spain | 15-minute STEL | 0.37 mg/$m^3$ | Sensitizer |
| Formaldehyde | Sweden | Level Limit Value (NGV) | 0.6 mg/$m^3$ | ---- |
| Formaldehyde | Switzerland | TWA | 0.37 mg/$m^3$ | Sensitizing substance |
| Formaldehyde | United Kingdom | TWA | 2.5 mg/$m^3$ | ---- |

**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, shower

## 9 PHYSICAL AND CHEMICAL PROPERTIES

**Color:** White opaque
**Odor:** No data available
**Odor Threshold:** No data available
**Physical State:** Lyophilized modified live virus is 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

## 10 STABILITY AND REACTIVITY

**Stability:** Stable

**Conditions to Avoid:** Temperatures below 2° C (35° F), direct sunlight

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition Products:** None known

**Possibility of Hazardous Reactions:** Will not occur.

## 11 TOXICOLOGICAL INFORMATION

**Specified Substances**

**Acute Toxicity:**

| | |
|---|---|
| Neomycin | Skin Sensitization $TCL_o$ (humans) : 20 pph : dermatitis, allergic<br>Oral $LD_{50}$ (rat): 2750 mg/kg |

**Listed Carcinogens:** None

## 12 ECOLOGICAL INFORMATION

**Ecotoxicity:** No data available
**Persistence and degradability:** No data available
**Mobility in soil:** No data available
**Other adverse effects:** No data available

**Germany WGK:** Not applicable

## 13 DISPOSAL CONSIDERATIONS

**General Information:** Dispose of in accordance with local, state, federal, national or international regulations.

**Disposal Methods:** Incinerate containers and unused contents. 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.

**RCRA Information:** Not applicable

## 14 TRANSPORT INFORMATION

**DOT:** Not regulated

**TDG:** Not regulated

**ADR/RID:** Not regulated

**IATA:** Not regulated

**IMDG:** Not regulated

## 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:** Noncontrolled, exempt

**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. In the United States, this product is regulated by the USDA Animal and Plant Health Inspection Service (APHIS).

**Canada CEPA Schedule 1** - Formaldehyde

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

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

**Section 311/312 (40 CFR 370):** None

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

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

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

**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
**New Jersey Right-To-Know List:** None
**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, April 2005):** Formaldehyde
**Germany (Dangerous Substances Ordinance 2004, Annex III):** None
**Norway (List of Dangerous Substance):** None
**Sweden (Sensitizers- Annex 3):** Formaldehyde
**Switzerland (Toxins List 1):** Formaldehyde

## 16 OTHER INFORMATION

**Hazard Ratings**

| | Health Hazard | Fire Hazard | Reactivity Hazard |
|---|---|---|---|
| **HMIS** | 1 | 0 | 0 |

| | Health Hazard | Fire Hazard | Reactivity Hazard | Special Hazard |
|---|---|---|---|---|
| **NFPA** | 1 | 0 | 0 | N/A |

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

**R and S Phrase Definitions**

T – Toxic
C – Corrosive
C3 – Carcinogen category 3
R23/24/25 – Harmful by inhalation, in contact with skin and if swallowed.
R40 – Limited evidence of a carcinogenic effect.
R43 – May cause sensitization by skin contact.
S(1/2) – Keep locked up and out of reach of children.
S24 – Avoid contact with skin.
S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 – Wear suitable protective clothing, gloves and eye/face protection.
S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51 – Use only in well-ventilated areas.

**ABBREVIATIONS:**

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

**References:**

1. Ariel WebInsight Regulatory Database. Regulatory Summary for North America, Western Europe, and Global Inventories Database.
2. GHS Manual
3. RTECS – Neomycin, QP3850000, Review Date, RTECS No. 200608
4. Express® FP 10 HS Label

**Prepared by:** Boehringer Ingelheim Vetmedica, Inc.
**Issue Date:** 02/09/2009
**Revision Information:** New MSDS

or product formulas contained in this document comply with the laws of any other country except the United States of America.

# MATERIAL SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Express™ 10 HS
**Product No.:** Not applicable
**MSDS ID#:** B44D9.20
**GHS Product Identifier:** Not applicable

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 vaccination of healthy, susceptible cattle as an aid in the reduction of respiratory diseases caused by Infectious Bovine Rhinotracheitis (IBR) virus, Bovine Virus Diarrhea (BVD) Types 1 and 2, Parainfluenza$_3$ ($PI_3$) virus, Bovine Respiratory Syncytial Virus (BRSV), *Haemophilus somnus* and leptospirosis caused by *Leptospira canicola, L. grippotyphosa, L. hardjo, L. icterohaemorrhagiae,* and *L. pomona.*

## 2 HAZARDS IDENTIFICATION

**Emergency Overview**

**Physical State:** Lyophilized modified live virus is supplied in a glass vial and a solution of inactivated bacterin is supplied in a high density plastic bottle.
**Color:** White opaque
**Odor:** No data available

**WARNING!**
**Allergic reactions can occur.**
**For use in cattle only.**
**Not for human use.**

**Precautionary Statements**
Keep only in original container.
Keep at a temperature between 2 - 7°C.
Do not freeze.
Accidental human injection can cause serious local reactions or anaphylactic reaction and systemic effects.
Avoid contact with eyes, skin and clothing.
Wash thoroughly with soap and water after handling.
Wear suitable gloves and eye/face protection.
Spills: Cover with absorbent or contain. Collect and incinerate.
If swallowed, seek medical advice immediately and show this container or label.
In case of accident 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.
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.

**Chronic Health Effects:** Possible hypersensitization (development of abnormal sensitivity).

**Target Organ(s):** Intestines

**OSHA Regulatory Status:** Non-hazardous (Exempt)

**Environment:** No data available

## 3 COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | EC No. | CAS- No. | Concentration | Classification | Notes |
|---|---|---|---|---|---|
| Bovine Rhinotracheitis Virus (modified live) | ---- | ---- | proprietary | ---- | --- |
| Bovine Virus Diarrhea – Type 1 and 2 (modified live) | ---- | ---- | proprietary | ---- | --- |
| Bovine Respiratory Syncytial Virus (modified live) | ---- | ---- | proprietary | ---- | --- |
| Parainfluenza Type 3 (modified live) | ---- | ---- | proprietary | ---- | --- |
| *Haemophilus somnus* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| *Leptospira canicola* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| *Leptospira grippotyphosa* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| *Leptospira hardjo* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| *Leptospira icterohaemorrhagiae* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |
| *Leptospira pomona* (inactivated bacterin) | ---- | ---- | proprietary | ---- | --- |

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, nitrogen oxides

## 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

**Exposure Limits:** None Established.

**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 mixture is likely wear:

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

**Hand Protection:** Wear suitable gloves.

**Skin Protection:** Wear lab coat, apron or appropriate clothing to prevent skin contact.

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

## 9 PHYSICAL AND CHEMICAL PROPERTIES

**Color:** White opaque
**Odor:** No data available
**Odor Threshold:** No data available
**Physical State:** Lyophilized modified live virus is supplied in a glass vial and a solution of inactivated bacterin is supplied in a high density plastic bottle.
**pH:** 6.5 – 7.5
**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

## 10 STABILITY AND REACTIVITY

**Stability:** Stable

**Conditions to Avoid:** Temperatures below 2° C (35° F)

**Incompatible Materials:** Strong oxidizing agents

**Hazardous Decomposition Products:** Nitrogen oxides

**Possibility of Hazardous Reactions:** Will not occur.

## 11 TOXICOLOGICAL INFORMATION

Express® 10 HS is considered non-toxic.

**Specified Substances**

**Acute Toxicity:** No data available

**Chronic Toxicity –** Possible hypersensitization (development of abnormal sensitivity).

**Listed Carcinogens:** None listed.

## 12 ECOLOGICAL INFORMATION

**Ecotoxicity:** No data available
**Persistence and degradability:** No data available
**Mobility in soil:** No data available
**Other adverse effects:** No data available

**Germany WGK:** Not applicable.

## 13 DISPOSAL CONSIDERATIONS

**General Information:** Dispose of in accordance with local, state, federal, national or international regulations.

**Disposal Methods:** 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.

**RCRA Information:** Not applicable

## 14 TRANSPORT INFORMATION

**DOT:** Not regulated

**TDG:** Not regulated

**ADR/RID:** Not regulated

**IATA:** Not regulated

**IMDG:** Not regulated

## 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, Exempt

**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** – None listed

**US Regulations**

**FEDERAL LAW RESTRICTS THIS DRUG TO USE BY OR ON ORDER OF LICENSED VETERINARIANS.**

**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 Substances (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):** None listed.
**Massachusetts Right-To-Know List:** None listed.
**Minnesota Hazardous Substances List:** None listed.
**New Jersey Right-To-Know List:** None listed.
**Pennsylvania Right-To-Know List:** None listed.
**Rhode Island Right-To-Know List:** None listed.

**European Regulations**

**Austria MAK List (Annex I):** None listed.
**Denmark (Annex 3.6):** None listed.
**Germany (Dangerous Substances Ordinance 2004, Annex III):** None listed.
**Norway (List of Dangerous Substance):** None listed.
**Sweden (Annex 3):** None listed.
**Switzerland (Toxins List 1):** None listed.

## 16 OTHER INFORMATION

**Hazard Ratings**

| | Health Hazard | Fire Hazard | Reactivity Hazard |
|---|---|---|---|
| **HMIS** | 1 | 1 | 0 |

| | Health Hazard | Fire Hazard | Reactivity Hazard | Special Hazard |
|---|---|---|---|---|
| **NFPA** | 1 | 1 | 0 | N/A |

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

**EU Symbol and R Phrase Definitions:** None listed

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

**References:**

1. Express™ 10 HS MSDS and Label
2. Ariel WebInsight Regulatory Database. Regulatory Summary for North America, Western Europe, and Global Inventories Database.
3. GHS Manual

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