

SAFETY DATA SHEETS

This SDS packet was issued with item:

078377170

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

078377741



MATERIAL SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product Name: Alpha-7™ Injection

Product No. : 7410.01

GHS Product Identifier: Not applicable

Synonyms: Clostridium Chauvoei-Septicum-Novyi-Sordellii-Perfringens Types C & D

Bacterin-Toxoid Vaccine

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): (800)530-5432

Intended Use:

Seven-way Clostridia Vaccine for healthy, susceptible cattle, including bred heifers, lactating beef and dairy cattle, against disease caused by *Clostridium chauvoei*, *CI septicum*, *CI novyi*, *CI sordellii*, and *CI perfringens* Types C and D.

Non-emergency Telephone: (800) 821-7467

2 HAZARDS IDENTIFICATION

Emergency Overview

Physical State: Liquid; Multi-dose vials: 20 mL (10 doses); 100 mL (50 doses); 500mL (250 doses)

Color: White

Odor: No data available



WARNING!

For cattle injection only.

Not for human use.

May cause allergic skin reaction.

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 not exceeding 7° C.

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 dispose.

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.

Acute effect:

Swelling at injection site may occur.

Precautions/Contraindications:

Use entire contents when first opened. Do not vaccinate within 60 days of slaughter.

Overdosage: None known.

ADVERSE REACTIONS TO PRODUCT: Anaphylactoid reactions may occur.

Potential Health Effects

Inhalation: Not expected to be an inhalation hazard.

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

Skin Contact: Can cause hypersensitive reactions. May cause skin sensitization by contact.

Ingestion: Not expected to be an ingestion hazard with prescribed use. Ingestion may cause vomiting, nausea or other systemic effects.

Injection: Swelling at injection site may occur.

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

Target Organ(s): Immune 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
Mineral oil	2323842	8012-95-1	55	----	----
Formaldehyde	2000018	50-00-0	.5	Xi, R43	----
Gentamicin sulfate	2157789	1405-41-0	30 mcg/mL	----	----
<i>Clostridium chauvoei</i>	----	N/A	proprietary	----	----
<i>Clostridium septicum</i>	----	N/A	proprietary	----	----
<i>Clostridium novyi</i>	----	N/A	proprietary	----	----
<i>Clostridium perfringens</i> , Type C	----	68583-13-1	proprietary	----	----
<i>Clostridium perfringens</i> , Type D	----	68583-14-2	proprietary	----	----
Deionized water	2317912	7732-18-5	proprietary	----	----
Montanide 888	----	mixture	proprietary	----	----

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

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. Get medical attention if symptoms occur.

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.

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.

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. For large liquid spill: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

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: Keep only in the original container. Store at 2°-7° C (35°-45° F). Avoid freezing. Keep out of reach of children. Keep away from food, drink, and animal feedstuffs.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

For Exposures:

Exposure Limits:

Chemical Name	Source	Type	Exposure Limits	Notes
<i>Clostridium chauvoei</i>	----	----	N/A	----
<i>Clostridium septicum</i>	----	----	N/A	----
<i>Clostridium novyi</i>	----	----	N/A	----
<i>Clostridium perfringens</i> , Type C	----	----	N/A	----
<i>Clostridium perfringens</i> , Type D	----	----	N/A	----
Formaldehyde	ACGIH	8-HR TWA	0.3 ppm	Irritation, cancer
Formaldehyde	OSHA	Action Level	.75 ppm	Cancer-suspect agent
Formaldehyde	Alberta	8-HR TWA	.75 ppm	Irritation
Formaldehyde	British Columbia	8-HR TWA	0.3 ppm	Capable of causing respiratory, dermal or conjunctival sensitization.
Formaldehyde	Ontario	8-HR TWA	1 ppm	----
Formaldehyde	Quebec	Ceiling Exposure Value	2 ppm	----
Formaldehyde	Austria MAK List (Annex I)	TWA	.06 mg/m ³	Justifiably suspected of carcinogenic potential. Skin absorption. Sensitizer
Formaldehyde	Belgium	15-minute STEL	0.38 mg/m ³	Irritant
Formaldehyde	Denmark	Ceiling	0.4 mg/ m ³	----
Formaldehyde	Finland	8-HR Limit	.37 mg/m ³	----
Formaldehyde	France	Short Term Limit (VLE)	1 ppm	----
Formaldehyde	Greece	8-HR TWA	2.5 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	.3 ppm	---
Formaldehyde	Netherlands	MAC TWA	1.5 mg/m ³	----
Formaldehyde	Norway	TLV	0.6 mg/m ³	Allergenic substance
Formaldehyde	Portugal	OELs	3 ppm	Sensitizer,

				suspected human carcinogen
Formaldehyde	Spain	15-minute STEL	.37 mg/m ³	----
Formaldehyde	Sweden	Level Limit Value	0.6 mg/m ³	----
Formaldehyde	Switzerland	TWA	.37 mg/m ³	----
Formaldehyde	United Kingdom	TWA	2.5 mg/m ³	----
Montanide 888	----	----	N/A	----
Oil mist, mineral	ACGIH	8-HR TWA	5.0 mg/m ³	Lung
Oil mist (mineral)	OSHA	PEL	5.0 mg/m ³	----
Oil mist (mineral)	Belgium	8-HR TWA	5.0 mg/m ³	----
Oil mist (mineral)	Denmark	8-HR TWA	1 mg/ m ³	----
Oil mist (mineral)	Finland	8-HR limit	5.0 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.

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
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Color: White

Odor: Odorless

Odor Threshold: No data available

Physical State: Liquid; Multi-dose vials: 20 mL (10 doses); 100 mL (50); 500mL (250) doses

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: None known

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: None known

Possibility of Hazardous Reactions: Hazardous polymerization will not occur

11 TOXICOLOGICAL INFORMATION

Specified Substances

Acute Toxicity

Chemical Name	Test Results
Formaldehyde	Oral LD ₅₀ (rat): 100 mg/kg Oral LD ₅₀ (rat): 500 mg/kg Dermal LD ₅₀ (rabbit): 270 mg/kg Inhalation TCLo (rat) : 40 ppm (effects on embryo or fetus: fetotoxicity (except death, e.g., stunted fetus) Oral LD ₅₀ (mouse): 500 mg/kg Subcutaneous LD ₅₀ (mouse): 300 mg/kg Eye irritation (rabbit): 10 mg: severe irritation Eye irritation (human): 1ppm/6M rinse : mild irritation Skin irritation (human): 150µg/3D-I : mild irritation Skin irritation (rabbit) 2mg/24hr: severe irritation
Gentamicin Sulfate	Oral LD ₅₀ (rat): > 5,000 mg/kg Oral LD ₅₀ (mouse): > 11,269 mg/kg Intramuscular LD ₅₀ (rat): 245 mg/kg
Mineral Oil	Oral LD ₅₀ (rat): 22 gm/kg Eye Irritation (rabbit) : 500mg, moderate irritation Skin Irritation (guinea pig) : 100mg/24hr, mild irritation

Listed Carcinogens

Chemical Name	IARC	NTP	OSHA	ACGIH
Formaldehyde	1	Anticipated carcinogen	Cancer-Suspect Agent	A2 –Suspected human carcinogen

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: Formaldehyde: ID No: 112; Class: 2: water-endangering.

13 DISPOSAL CONSIDERATIONS

General Information: Dispose of in accordance with local, state and federal 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 storage disposal.

RCRA Information: EPA Hazardous U-number Formaldehyde: U122, D001.

Container: Since emptied containers retain product residue, follow label warnings even after container is emptied.

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 US TSCA Inventory. Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use.

This material is **not** listed on the DSL Inventory.

Canada CEPA Schedule 1 - Formaldehyde**US Regulations****CERCLA Hazardous Substance List (40 CFR 302.4):**

Component	Reportable Quantity
Formaldehyde	100 lbs

SARA Title III**Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**

Component	Reportable Quantity	Threshold Planning Quantity
Formaldehyde	100 lbs	500 lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): Formaldehyde**State Regulations****California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**

Formaldehyde (gas)

Massachusetts Right-To-Know List: Oil mist, (mineral), Formaldehyde, Formalin

Minnesota Hazardous Substances List: Oil mist, (mineral), Formaldehyde

New Jersey Right-To-Know List: Mineral oil, Formaldehyde

Pennsylvania Right-To-Know List: Mineral oil mist, Formaldehyde

Rhode Island Right-To-Know List: Mineral oil, Formaldehyde

European Regulations

Austria MAK List (Annex I): Formaldehyde: Carcinogens Group IIIB (Justifiably suspected of carcinogenic potential-Special danger of skin absorption).

Denmark (Annex 3.6, April 2005): Carcinogens: Formaldehyde

Germany (Dangerous Substances Ordinance 2004, Annex III): Formaldehyde

Norway (List of Dangerous Substance): Formaldehyde

Sweden (Sensitizers- Annex 3): Formaldehyde

Switzerland (Toxins List 1): Formaldehyde: Toxicity Category 3

16	OTHER INFORMATION
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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

Xi - Irritant

R43 - May cause sensitization by skin contact.

S24 - Avoid contact with skin.

S37 – Wear suitable gloves.

ABBREVIATIONS:

BIV - Boehringer Ingelheim Vetmedica, Inc.

AIHA- American Industrial Hygiene Association

mppcf – million particles/cubic foot

N/A - Not applicable.

N/E - Not established.

References:

1. Ariel WebInsight Regulatory Database. Regulatory Summary for North America, Western Europe, and Global Inventories Database. Formaldehyde, Gentamycin and Mineral Oil.
2. Alpha-7™ Product Label, Boehringer Ingelheim Vetmedica, Inc.
3. Alpha-7™ Clostridia Vaccine, Product Information.
www.bi-vetmedica.com/product_sites/Alpha7/reference.html
4. RTECS – Formaldehyde. RTECS No. LP8925000
5. RTECS - Gentamycin, sulfate. RTECS No. LY26225000
6. RTECS – Mineral Oil. RTECS No. PY8030000
7. Food & Drug Administration. www.fda.gov
8. GHS Manual

Revision Information: Updated all sections of the MSDS for ANSI, GHS and OSHA Compliance.

Prepared by: Boehringer Ingelheim Vetmedica, Inc.

Issue Date: 07/07/06

Supersedes Date: 3/21/05

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SAFETY DATA SHEET

1. Identification

Product identifier	Alpha-7
Other means of identification	
Product code	APHIS Code – 7410.01, Family Code - 135
Recommended use	Vaccination of healthy, susceptible cattle, against disease caused by Clostridium chauvoei, CI septicum, CI novyi, CI sordellii, and CI perfringens Types C and D.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	Boehringer Ingelheim Vetmedica, Inc.
Address	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 calls:	(800) 821-7467

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Sensitization, respiratory	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 1
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	May cause cancer. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If on skin: Wash with plenty of water. If exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage	Store away from incompatible materials. Keep at a temperature between 2 - 7°C Do not freeze. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Mineral Oil	8012-95-1	55
Formaldehyde*	50-00-0	0.5
Clostridium chauvoei	N/A	Proprietary
Clostridium novyi	N/A	Proprietary
Clostridium perfringens Type C	68583-13-1	Proprietary
Clostridium perfringens Type D	68583-14-2	Proprietary
Clostridium septicum	N/A	Proprietary
Gentamicin sulfate	1405-41-0	30 mcg/mL
Montanide 888	Mixture	Proprietary

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

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	May cause an allergic skin reaction. Dermatitis. Rash. Ingestion of a large quantity may cause vomiting, nausea, dizziness, drowsiness and other systemic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. Not for human use. For use in cattle and swine only. Persons developing anaphylactic (life threatening) reactions, such as difficulty in breathing or unconsciousness, must receive immediate medical attention.
General information	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: 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. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions**7. Handling and storage****Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store away from foodstuffs. Store in the dark at 2°C to 7°C (35°F to 45°F). Avoid freezing. Shake Well. Protect from direct sunlight. Store away from incompatible materials, see Section 10 of the SDS.

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**

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
Mineral Oil (CAS 8012-95-1)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Formaldehyde* (CAS 50-00-0)	STEL	0.3 ppm	
	TWA	0.1 ppm	
Mineral Oil (CAS 8012-95-1)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Formaldehyde* (CAS 50-00-0)	Ceiling	0.1 ppm	
	TWA	0.016 ppm	
Mineral Oil (CAS 8012-95-1)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general 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.

Individual protection measures, such as personal protective equipment**Eye/face protection**

None required for consumer use. In laboratory, medical or industrial settings, safety glasses with side shields are recommended. The use of goggles or full face protection may be required depending on the industrial exposure setting. Contact a health and safety professional for specific information.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection	
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wear protective gloves.
Respiratory protection	None required for consumer use. Respirators may be required for certain laboratory and manufacturing tasks if engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (where exposure limits have not been established). Workplace risk assessments should be completed before specifying and implementing respirator usage. All respirators must conform to specifications for efficiency and performance. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134. Respirator type: Air-purifying respirator with an appropriate, air-purifying filter, cartridge or canister. Contact a health and safety professional or manufacturer for specific information.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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. 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid in vial.
Color	White.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Excessive heat. Keep from freezing.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics May cause an allergic skin reaction. Dermatitis. Rash. Ingestion of a large quantity may cause vomiting, nausea, dizziness, drowsiness and other systemic effects.

Information on toxicological effects

Acute toxicity May cause allergic respiratory and skin reactions.

Components	Species	Test Results
Formaldehyde* (CAS 50-00-0)		
Acute		
Dermal		
LD50	Rat	270 mg/kg
Inhalation		
LC50	Rat	0.578 mg/l, 4 hours
Oral		
LD50	Rat	100 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

ACGIH sensitization

FORMALDEHYDE (CAS 50-00-0)

Dermal sensitization
Respiratory sensitization

Respiratory sensitization May cause allergic respiratory reaction.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity May cause cancer. Contains a component that is listed as an IARC 1 (Known Human Carcinogen), a NTP Known Carcinogen and an ACGIH A2 (Suspected Human Carcinogen). In vaccines, the chronic exposure potential is negligible.

IARC Monographs. Overall Evaluation of Carcinogenicity

Formaldehyde* (CAS 50-00-0)

1 Carcinogenic to humans.

NTP Report on Carcinogens

Formaldehyde* (CAS 50-00-0)

Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Formaldehyde* (CAS 50-00-0)

Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Possible hyper sensitization (development of abnormal sensitivity).

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Formaldehyde* (CAS 50-00-0)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	4.3 - 7.8 mg/l, 48 hours
Fish	LC50	Striped bass (Morone saxatilis)	10.302 - 16.743 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Formaldehyde* (CAS 50-00-0) 0.35

Mobility in soil Expected to be slightly to moderately mobile in soil.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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.
One or more components are not listed on TSCA.
Therefore, it can only be used for TSCA exempt purposes such as R&D or veterinary use.
FEDERAL LAW RESTRICTS THIS DRUG TO USE BY OR ON ORDER OF LICENSED VETERINARIANS.

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 1910.1001-1053)

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 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
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Formaldehyde*	50-00-0	100	500		
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SARA 311/312 Hazardous chemical

Classified hazard categories	Respiratory or skin sensitization Carcinogenicity
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SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Formaldehyde*	50-00-0	0.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Formaldehyde* (CAS 50-00-0)

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

Formaldehyde* (CAS 50-00-0)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Formaldehyde* (CAS 50-00-0)

Mineral Oil (CAS 8012-95-1)

US. New Jersey Worker and Community Right-to-Know Act

Formaldehyde* (CAS 50-00-0)

Mineral Oil (CAS 8012-95-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Formaldehyde* (CAS 50-00-0)

Mineral Oil (CAS 8012-95-1)

US. Rhode Island RTK

Formaldehyde* (CAS 50-00-0)

Mineral Oil (CAS 8012-95-1)

California Proposition 65



WARNING: This product can expose you to Formaldehyde*, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Formaldehyde* (CAS 50-00-0)

Listed: January 1, 1988

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

Formaldehyde* (CAS 50-00-0)

Mineral Oil (CAS 8012-95-1)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies 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	24-January-2017
Revision date	16-January-2018
Version #	03
Further information	Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling. HMIS® is a registered trade and service mark of the American Coatings Association (ACA). A HMIS® Health rating including an * indicates a chronic hazard.

HMIS® ratings	Health: 2* Flammability: 0 Physical hazard: 0
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NFPA ratings



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