



**LUITPOLD ANIMAL HEALTH**

**MATERIAL SAFETY DATA SHEET**

<b>Section 1: PRODUCT AND COMPANY INFORMATION</b>	
Luitpold Pharmaceuticals, Inc. P.O. Box 9001 Shirley, New York 11967 (800) 458-0163 (631) 924-4000	Chemtrec 24/7 Emergency Telephone Number Domestic North America: (800) 424-9300 International: +1 703-527-3887
<b>PRODUCT NAME: Adequan® i.m., Adequan® Canine, Adequan® i.a.</b>	
<b>PRODUCT CODE (NDC):</b>	
Adequan® i.m. 10 % Polysulfated Glycosaminoglycan:	<b>10797-995-01</b>
Adequan® Canine 10 % Polysulfated Glycosaminoglycan:	<b>10797-975-02</b>
Adequan® i.a. 25 % Polysulfated Glycosaminoglycan:	<b>10797-991-72</b>

<b>Section 2: HAZARDS IDENTIFICATION</b>	
<b>EMERGENCY OVERVIEW</b>	
Appearance / Odor	Clear colorless to light yellow solution. (Odor of Benzyl Alcohol - Adequan® Canine Only)
<b>WARNING!</b>	
Skin, eye and respiratory irritant	Causes irritation of the eyes and skin.
Toxicity to fish/aquatic organisms	Product is not known to be toxic to fish.
<i>Potential Health Effects: See Section 11 for more information</i>	
Likely Routes of Exposure	Eye and skin contact.
Eye	Causes irritation of the eye.
Skin	Causes irritation of the skin.
Inhalation	Unlikely to cause irritation of the upper and lower respiratory tract.
Ingestion	Unlikely to cause irritation of alimentary canal.
Skin Absorption	Causes skin irritation but not absorbed through the skin.
Medical Conditions Aggravated by Exposure	Sensitivity to compound.
Target Organs	Eyes and skin.

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<b>Section 2: HAZARDS IDENTIFICATION (continued)</b>	
<i>Potential Environmental Effects:</i> <i>See Section 12 for more information</i>	This product is not known to be toxic to fish.
This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.	
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)	

<b>Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS</b>		
Component	CAS Number	Percentage (%) by Weight
Polysulfated Glycosaminoglycan	64082-61-7	10 to 25 percent
Benzyl Alcohol (Adequan <sup>®</sup> Canine only)	100-51-6	Up to 0.9 percent
Sodium Hydroxide	1310-73-2	used for pH adjustment
Hydrochloric Acid	7647-01-0	used for pH adjustment
Water for Injection	7732-18-5	75 to 90 percent

<b>Section 4: FIRST AID MEASURES</b>	
Eye Contact	May cause irritation. Flush for 15 minutes with copious quantities of water. Seek medical attention.
Skin Contact	May cause irritation. Remove contaminated clothing. Flush area with copious quantities of water for 15 minutes. Seek medical attention.
Inhalation	Unlikely to cause irritation of respiratory tract. If person is experiencing breathing difficulties, remove person to fresh air. Remove contaminated clothing. Seek medical attention.
Ingestion	Unlikely to cause irritation of the alimentary canal.
Injection	See prescribing information.
Note to Physicians	This product may cause eye and skin irritation following prolonged exposure.

<b>Section 5: FIRE FIGHTING MEASURES</b>	
Suitable Extinguishing Media	Water spray, foam, dry chemical or Carbon Dioxide (CO <sub>2</sub> ). <b>Caution:</b> CO <sub>2</sub> will displace air in confined spaces and may cause an Oxygen deficient atmosphere.
Unsuitable Extinguishing Media	None.
Hazardous Combustion Products	When heated, Polysulfated Glycosaminoglycan does not thermally decompose to form any toxic or hazardous products.
<b>Protection for Firefighters:</b> Polysulfated Glycosaminoglycan solution does not thermally decompose to form toxic vapors. Vapors associated with product and packaging involved in a fire may be irritating to eyes and skin and toxic to respiratory tract. Firefighters are to wear self-contained breathing apparatus (SCBA) and full turn out gear (Bunker gear). Cool containers with water spray and use caution when approaching.	

<b>Section 6: ACCIDENTAL RELEASE MEASURES</b>	
Personnel Precautions	Use personal protective equipment recommended in Section 8 of this document and isolate the hazard area.
Environmental Precautions	This material is not considered to be a water pollutant. However, it is recommended to prevent spilled and leaking material from entering waterways. Minimize use of water to prevent environmental contamination.
Methods of Containment	Absorb material with suitable materials such as clay absorbent or absorbent pads for aqueous solutions.
Methods of Clean Up	Vacuum spillage with a vacuum cleaner having a high efficiency particulate (HEPA) filter, or absorb liquid with clay absorbent, absorbent pads or paper towels. Use plastic tools to scoop up, sweep or containerize spilled material. Use plastic drums to contain spilled materials. Wipe working surfaces to dryness, and then wash with soap and water.
Other Information	A spill of this material does not need to be reported to the National Response Center.

<b>Section 7: HANDLING AND STORAGE</b>
<p><b>Handling:</b></p> <p>As a general rule, when handling pharmaceutical products, avoid all contact and inhalation of mists or vapors associated with the product. Avoid contact with skin, eyes or clothing. Do not mix with other drugs.</p> <p>Use in a well ventilated area. Wash thoroughly after handling.</p> <p><b>Storage:</b></p> <p>Store in well ventilated area. Keep containers closed when not in use. Product residue may remain in empty containers. Observe all label precautions until container is cleaned, discarded or destroyed.</p>

<b>Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION</b>			
Exposure Guidelines	OSHA PEL	ACGIH TLV	OTHER
Polysulfated Glycosaminoglycan	Not listed	Not listed	
Benzyl Alcohol (Adequan <sup>®</sup> Canine only)	Not listed	Not listed	
Water for Injection	Not listed	Not listed	
Sodium Hydroxide	2 milligrams / cubic meter - 8 hour TWA	2 milligrams / cubic meter - Ceiling	
Hydrochloric Acid	5 parts per million - Ceiling	2 parts per million - Ceiling	
Personal Protective Equipment	Description		
Ventilation	Local exhaust or general ventilation is recommended.		
Respiratory Protection	Not required unless mists are observed. Use a NIOSH approved air purifying respirator with P-100 / organic vapor cartridges.		
Eye Protection	Wear ANSI approved chemical splash goggles or safety glasses.		
Skin Protection	When administering this product to patients, wear nitrile or latex gloves. Wear Tyvek <sup>™</sup> SL or equivalent coveralls, PVC booties and nitrile gloves for clean up activities.		

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>	
Color	Colorless to slightly yellow solution.
Odor / Odor Threshold	Odorless solution (Odor of Benzyl Alcohol - Adequan <sup>®</sup> Canine Only)
Physical State	Liquid
pH	5.0 to 6.5
Freezing Point	Approximately 32 degrees Fahrenheit
Boiling Point	Approximately 212 degrees Fahrenheit
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability	Nonflammable, noncombustible
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Specific Gravity	Approximately 1.1
Solubility (water)	Freely soluble in water
Partition Coefficient	Not applicable
Auto-ignition Temperature	Not applicable
Percent Volatile	Up to 0.9 percent (Benzyl Alcohol used as a preservative)
Volatile Organic Compounds (%)	Up to 0.9 percent (Benzyl Alcohol used as a preservative)

<b>Section 10: STABILITY AND REACTIVITY</b>	
Stability	Stable.
Conditions to Avoid	Do not mix with other drugs. Avoid heat, light and humidity. Keep away from flames, thermally decomposes to form toxic vapors.
Incompatible Materials	Considered slightly reactive with caustics.
Hazardous Decomposition Products	None.
Possibility of Hazardous Reactions	Hazardous polymerization will not occur.

<b>Section 11: TOXICOLOGY INFORMATION</b>	
<b>Acute Effects</b>	
Oral (LD <sub>50</sub> )	LD <sub>50</sub> : 20 g/kg oral - rat
Intravenous (LD <sub>50</sub> )	LD <sub>50</sub> : 3.5 g/kg intravenous - rat
Intraperitoneal (LD <sub>50</sub> )	No data available.
Dermal (LD <sub>50</sub> )	No data available.
Inhalation	Respiratory irritation is unlikely.
Eye Irritation	Eye irritation is possible.
Skin Irritation	Skin irritation is possible.
Sensitization	No data is available on sensitization.
<b>Chronic Effects</b>	
Carcinogenicity	Not considered carcinogenic.
Mutagenicity	Not considered a mutagen. Benzyl Alcohol used as a preservative is considered mutagenic for bacteria and yeast.
Reproductive Effects	Not known to produce any reproductive effects.
Developmental Effects	Not considered teratogenic.

<b>Section 12: ECOLOGICAL INFORMATION</b>	
Ecotoxicity	No data available.
Persistence / Degradability	Degradation is expected under aerobic and anaerobic conditions. Short term products of biodegradation may be more toxic or hazardous than product.
Bioaccumulation / Accumulation	No applicable bioaccumulation is expected in the environment.
Mobility in Environment	Appreciable volatilization is not expected into the air.
<b>Section 13: DISPOSAL CONDITIONS</b>	
Disposal	Do not mix with other substances. Dispose of in accordance with Federal, state and local regulations. Contact your state or local government environmental and / or sanitation department for guidance on disposal.
<b>Section 14: TRANSPORTATION INFORMATION</b>	
<b>Regulatory Agency</b>	<b>Shipping Description</b>
US DOT (ground)	Not considered a DOT regulated material - Non hazardous for shipment.
Canadian TDG (ground)	See US DOT.
IATA (air)	Not considered a DOT regulated material - Non hazardous for shipment.
<b>Section 15: REGULATORY INFORMATION</b>	
STATE RIGHT TO KNOW	Refer to the applicable state to determine applicability.
California Safe Drinking Water & Toxic Enforcement Act (Prop 65)	This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65.
RTECS Number	Not listed.
TSCA	Not listed.
NFPA Rating	No data available.
WHMIS (Canada)	Not listed.

**Section 16: OTHER INFORMATION**

Adequan<sup>®</sup> i.m. is recommended for the intramuscular treatment of non-infectious degenerative and/or traumatic joint dysfunction and associated lameness of the carpal and hock joints in horses. Adequan<sup>®</sup> Canine is recommended for intramuscular injection for the control of signs associated with non-infectious degenerative and/or traumatic arthritis of canine synovial joints. Adequan<sup>®</sup> i.a. is recommended for the treatment of non-infectious degenerative and /or traumatic joint dysfunction and associated lameness of the carpal joint in horses.

Refer to Luitpold / Animal Health prescribing information for further information at [http://www.luitpoldanimalhealth.com/product\\_inserts.html](http://www.luitpoldanimalhealth.com/product_inserts.html)

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