



Material Safety Data Sheet

Ketaset (Ketamine Hydrochloride) Veterinary Injection for Intramuscular Use

WW MSDS No. 30-4401

Section 1. Product and Company Identification	
Manufactured/Supplied by	Fort Dodge Animal Health 800 5th Street NW P.O. Box 518 Fort Dodge, IA 50501 Phone: 515-955-4600 Fax: 515-955-9149
Product Trade Name	Ketaset (Ketamine Hydrochloride) Veterinary Injection for Intramuscular Use
Common Name	Not applicable.
Synonyms	Ketamine
Chemical Formula	Mixture.
Chemical Family	Not available.
Material Uses	Pharmaceutical: Veterinary pharmaceutical.
Packaging	Glass bottle/vial
Formula Type	Not available.
Date of Preparation	17 January 2002
Product No.	30-4401
Formula No.	Not available.
CAS No.	Mixture.
U.N. No.	Not applicable.
EINECS No.	Not applicable.
In Case of Emergency	515-955-6033

Section 2. Composition - Information on Ingredients				
Name of Ingredients	CAS No.	Conc.	EU Symbol	R Phrase
1) Ketamine Hydrochloride	1867-66-9	10	Xn	R22 R22, R38, R41, R51
2) Benzethonium Chloride	121-54-0	0.01	N Xn Xi	
3) Water For Injection.	7732-18-5	90	Not controlled.	Not controlled.

Section 3. Hazards Identification - Summary of Primary Effects and Critical Hazards	
Acute Health Effects	Severely irritating to eyes.
Chronic Health Effects	Potential organ systems affected are: Central Nervous System (CNS).
Environmental Hazards	Toxic for: Bluegill Fathead minnow

Section 4. First Aid Measures - (by medical responders using "Universal Precautions")	
Eye Contact	Flush eyes with plenty of water for 15 minutes, occasionally lifting upper and lower eyelids. (Check person for contact lenses and remove if present.) If redness or irritation persists have eyes examined by doctor immediately.
Skin Contact	Flush skin with plenty of soap and water for at least 15 minutes (remove all contaminated clothing and shoes) Get medical attention if symptoms persist.
Inhalation	No specific treatment, treat symptomatically. If breathing is difficult give oxygen, if respiratory arrest occurs provide artificial respiration and seek immediate medical assistance
Ingestion	No specific treatment, treat symptomatically. Call medical doctor or poison control center immediately if large quantities are ingested
Notes to Medical Doctor	Direct treatment at control of symptoms.

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Section 5. Fire-Fighting Measures

Extinguishing Media and Instructions	Follow your company's procedures. Use an extinguishing agent suitable for the surrounding class of fire.
Special Exposure Hazards	None. Dispose of fire debris and contaminated fire fighting water in accordance with regulations.
Special Fire Fighting Protective Equipment	No special product precautions or equipment.

Section 6. Accidental Release Measures

Small Spill Guidelines	Follow your company's spill procedures. Keep people away from spill. Put on appropriate personal protective equipment (see Section 8). Use a tool to scoop up solid or absorbed material and put into appropriate labeled waste container.
Large Spill Guidelines	Initiate company's spill response procedures immediately. Keep people out of area. Put on appropriate personal protective equipment (see Section 8).
Environmental Precautions	No special measures are typically indicated.

Section 7. Handling and Storage

Handling (ventilation and fire prevention)	Avoid contact with eyes, skin, and clothing. Avoid generating or breathing product aerosol. Wash after handling.
Storage (conditions and limitations)	Store tightly closed in original container. Keep containers in a well ventilated, secure location.

Section 8. Exposure Controls and Personal Protection - (normal and intended use)

Component	REG. Limit	OSHA (PEL)	ACGIH (TLV®)	Company Guideline
1) Ketamine Hydrochloride	TWA:			0.025 mg/m ³
Exposure Guidelines				
Engineering Design and Control Measures	General ventilation is typically sufficient to keep airborne levels below established values. Provide eye wash and quick drench shower close to work station. Clean, appropriately launder, or dispose of all potentially contaminated work clothing, foot wear, and protective equipment after use.			
Protective Clothing				
Eyes	Safety glasses. Goggles, face shield, or other full-face protection where if the potential exists for direct exposure to aerosols or splashes.			
Skin	Lab coat.			
Hands	Gloves, Chemical resistant.			
Respiratory	Respirator selection must be based on anticipated exposure levels, product hazards, and the safe working limits of the selected respirator. A respirator is not needed under normal and intended conditions of product use.			

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Odor	Minimal.
Molecular Weight	Mixture.	Color	Clear pale yellow.
Boiling Point	Not available	pH	3.5 to 5.5 [Acidic.]
Melting/Freezing Point	0°C (32°F) based on data for: Water For Injection..		
Density/Bulk Density	1 (Water = 1) (Water For Injection.).		
Vapor Pressure	18 mm of Hg (@ 20°C) (Water For Injection.).		
Vapor Density	Not available.		
Viscosity	Not available.		
Partition Coefficient	Not available.		
Solubility	Ketaset (Ketamine Hydrochloride) Veterinary Injection for Intramuscular Use: Easily soluble in cold water, hot water.		
Flash Point	Not applicable		
Autoignition Point	Not applicable.		
Explosion Limits	Not applicable.		
Dust Explosivity	Not applicable.		

Section 10. Stability and Reactivity

Conditions to Avoid and Incompatibility	Extremely reactive or incompatible with acids, alkalis. Reactive with organic materials.
Decomposition Products	These products are carbon oxides (CO, CO ₂), nitrogen oxides (NO, NO ₂ ...), halogenated compounds.

Section 11. Toxicological Information

Acute Effects				
Component	Test	Result	Route	Species
1) Ketamine Hydrochloride	LD50	447 mg/kg	oral	Rat
	LD50	617 mg/kg	oral	Mouse
2) Benzethonium Chloride	LD50	368 mg/kg	oral	Rat
Eye Contact	Severely irritating (USA). Irritating (EU).			
Skin Contact	Corrosive (USA). Causes Severe Skin Burns (EU).			
Inhalation	Not available.			
Ingestion	Practically non-toxic if swallowed.			
Chronic Effects				
Target Organs	Potential organ systems effected are: Cardiovascular System, Gastrointestinal Tract, Central Nervous System (CNS).			
Adverse Effects Statements	No known significant effects or critical hazards.			

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Sensitization	Not available.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.
Mutagenic Effects	Not mutagenic in a standard battery of genetic toxicological tests.
Teratogenic Effects	No known human teratogenic effect
Reproductive Effects	No evidence of human reproductive effects.
Other Effects	FDA C - Risk cannot be ruled out.

Section 12. Ecological Information

Environmental Fate	Not available.			
Environmental Hazards	Toxic for: Bluegill Fathead minnow			
Ecotoxicity				
	Component	Species	Period	Result
	1) Benzethonium Chloride	Bluegill	96 hour(s)	1.4 mg/l
Other	Not available.			

Section 13. Disposal Considerations

Waste Handling and Disposal	Avoid disposal, make attempts to use product completely in accordance with intended use. Incinerate unwanted products and waste materials.
<i>Note: The waste generator must be informed of and follow all applicable rules and regulations for the handling and disposal of waste.</i>	

Section 14. Transport Information

Proper Shipping Name, Primary Class, UNNA Number, Packaging Group	Not controlled.	
ADR/RID Classification (Road and Rail Transport)	Not controlled.	
ADNR Classification (Inland Waterways)	Not controlled.	
IMO/MDG Class (Maritime Transport)	Not controlled.	
ICAO/IATA (Air Transport)	Not controlled.	
CEPIC Trecard	Not available.	HI Kemler Not available.
U.S.A. DOT Class	Not controlled.	NFPA Health  Flammability Reactivity Specific hazard
RQ	Not applicable.	

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Packaging Instructions Not available

Section 15. Regulatory Information and Warning Labels

(R) Risk Phrases R41- Risk of serious damage to eyes.



[Xi] Irritant.

(S) Safety Phrases S41- In case of fire and/or explosion do not breathe fumes.

NOTE: This product has been classified in accordance with applicable country-specific regulations.

Section 16. Other Key Information

Other Considerations See product label and package insert for additional information.

19 January 2002 Responsible for MSDS: Global Engineering, Environmental and Safety

Fort Dodge Animal Health -- within American Home Products Corporation

Notice to Reader

* This symbol indicates information which has changed from the previous MSDS.

The information provided in this MSDS is based on current knowledge, however, this does not constitute a warranty by the Company for that information. The product user is responsible for the appropriate and intended handling, use, and disposal of this product in accordance with label or package precautions and this information. All materials may present unknown hazards and should be used with caution.

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