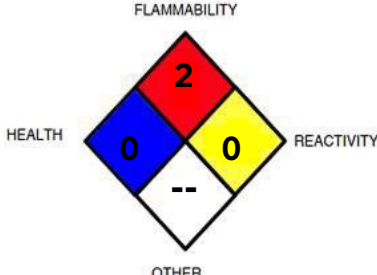
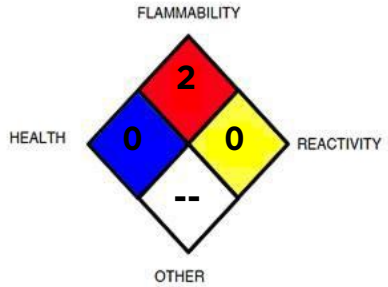


Safety Data Sheet

Section 1: Product & Company Identification	
Product Name:	Memantine hydrochloride
Product #:	M-1024
Synonyms:	3,5-Dimethyl-1-adamantanaminehydrochloride 3,5-Dimethylamantadinehydrochloride, DMAA, D-145
Supplier:	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925 Fax# + 858-452-9926
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients			
Component	CAS#	EC #	% Composition
Memantine hydrochloride	41100-52-1	255-219-6	≥90

Section 3: Hazards Identification	
Symbols	N/A
HMIS Classification	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">HEALTH REACTIVITY</p> <p style="text-align: center;">OTHER</p>

NFPA Classification	
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Section 4: First Aid Measures

General Overview:	Avoid contact, wear suitable protective clothing, gloves and eye/face protection.
Inhalation:	If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration, seek medical attention.
Skin:	Wash immediately with water for 15 minutes. Remove contaminated clothing. Wash contaminated clothing before reuse. Seek medical attention if symptoms appear.
Eyes:	In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes. Remove contacts. Assure adequate flushing of the eyes by separating the eyelids with fingers.
Ingestion:	If swallowed, DO NOT induce vomiting. Wash mouth with water, never give anything to unconscious person. Seek medical attention.
	See section 11 for more detailed information on health effects & symptoms.

SECTION 5: Fire Fighting Measures

Flammability of the product:	No data available
Extinguishing Media:	Dry Chemical Powder for SMALL FIRES and carbon dioxide or water spray, fog or foam for LARGE FIRES. Do not use water jet.
Hazardous thermal (de)composition products:	Carbon oxides, Nitrogen oxides, Hydrogen chloride
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent contact with skin and eyes. Be sure to use an approved/certified respirator or equivalent.
Flash Point:	No data available

Section 6: Accidental Release Measures





Personal Precautions:	Use Personal Protection Equipment. Splash goggles. Gloves. Avoid dust formation.
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Environmental Precautions:	Do not let product enter drains.
Methods for Clean-up:	Sweep up & shovel into suitable disposal container. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: Handling & Storage

Storage:	Store at -20°C and protect from light. Keep container tightly closed and in cool, dry, well-ventilated area.
Handling:	Use only in area provided with appropriate exhaust ventilation. Keep away from heat and source of ignition. Empty containers pose a fire risk, evaporate residue under fume hood. Ground all equipment containing material. Do not breathe dust.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	 <p>If exposure limit reached use ventilation system when handling or wear appropriate government (NIOSH/MSHA) approved respirator.</p>
Skin and Body:	  <p>Chemical-resistant gloves and lab coat/other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.</p>
Eyes:	

	Safety goggles
Ventilation/Engineering Measures:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
Hygiene:	Handle in accordance with good industrial hygiene and safety practice.
Other:	Contains no substances with occupational exposure limits.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	White solid crystalline powder
Formula	$C_{12}H_{21}NHCl$
Molecular Wt.	215.8
Melting Pt.	258°C
Boiling Pt.	239.8°C
Density:	No data available
Vapor Pressure:	No data available
Evaporation Rate:	No data available
Vapor Density:	No data available
Solubility:	Ethanol
Flash Point:	92.3°C
Autoignition Temp:	No data available

SECTION 10: Stability and Reactivity

Stability:	Stable under proper storage conditions
Hazardous decomposition products:	Carbon oxides, Nitrogen oxides
Materials to Avoid:	Strong oxidizing agents
Conditions to avoid:	Fire, extreme temperatures, direct sunlight

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	N/A
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

	<p>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by AGGIH.</p> <p>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.</p> <p>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.</p> <p>EPA: No classification on carcinogenic data is available from EPA</p>
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SECTION 12: Ecological Information

Ecotoxicity:	May cause long lasting harmful effects to aquatic life.
Mobility:	No data available
Persistence and degradability:	No data available
Bioaccumulative potential:	No data available
Other adverse effects:	No data available
Corrosivity Characteristic:	No data available
General Notes:	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Only professional staff trained in such techniques must undertake waste disposal. Observe all appropriate federal, provincial or state and local regulations.
Contaminated Packaging:	Do not re-use empty containers. Dispose of as unused product.

SECTION 14: Transportation Information

UN ID#:	N/A
ADR / RID (LAND):	Not regulated
DOT regulations:	Not regulated
IMDG/IMO (SEA):	Not regulated
IATA/DGR (AIR):	Not regulated
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	Not hazardous
Risk Phrases:	N/A

Safety Phrases:	N/A
EU Regulations:	N/A
US Regulations:	TSCA: Not listed California Proposition 65: No products were found Pennsylvania State Right to Know: Listed New Jersey State Right to Know: Listed
U.S. Federal Regulations:	SARA 302/304 emergency planning and notification: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: No products were found. SARA 313 toxic chemicals notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean Air Act (CAA) 112 accidental release prevention: No products were found. Clean Air Act (CAA) 112 regulated flammable substances: No products were found. Clean Air Act (CAA) 112 regulated toxic substances: No products were found. OSHA: No products were found.
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*