

## Safety Data Sheet

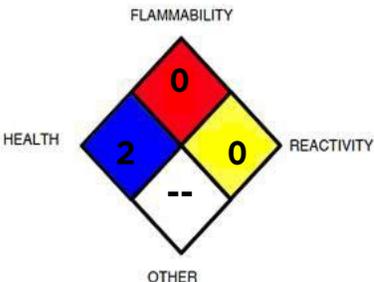
### Section 1: Product & Company Identification

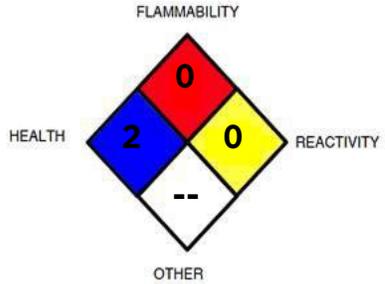
<b>Product Name:</b>	Metformin Hydrochloride
<b>Product #:</b>	M-2378
<b>Synonyms:</b>	N,N-dimethyl-imidodicarbonimidic diamide, monohydrochloride; 1,1-Dimethylbiguanide hydrochloride
<b>Supplier:</b>	AG Scientific Holdings, LLC 9950 Scripps Lake Drive, Suite 104 San Diego CA 92131 Tele# + 858-452-9925
<b>Emergency Tele#:</b>	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

### Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	% Composition
Metformin Hydrochloride	1115-70-4	214-230-6	≥ 99

### Section 3: Hazards Identification

<b>Symbols</b>	
<b>HMIS Classification</b>	<p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">OTHER</p>

<b>NFPA Classification</b>	
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## Section 4: First Aid Measures

<b>General Overview:</b>	Symptoms of poisoning may even occur after several hours; therefore, medical observation for at least 48 hours after the accident. May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects. No further relevant information available
<b>Inhalation:</b>	Supply fresh air; consult doctor in case of complaints.
<b>Skin:</b>	Generally, the product does not irritate the skin.
<b>Eyes:</b>	Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
<b>Ingestion:</b>	Immediately call a doctor.
	See section 11 for more detailed information on health effects & symptoms.

## SECTION 5: Fire Fighting Measures

<b>Flammability of the product:</b>	Not flammable
<b>Extinguishing Media:</b>	Use firefighting measures that suit the environment. A solid water stream may be inefficient.
<b>Hazardous thermal (de)composition products:</b>	No data available
<b>Special Fire Fighting Procedures:</b>	No data available
<b>Flash Point:</b>	No data available

## Section 6: Accidental Release Measures

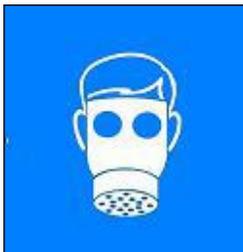
<b>Personal Precautions:</b>	No data available
<b>Environmental Precautions:</b>	Do not allow to enter sewers/ surface or ground water.

<b>Methods for Clean-up:</b>	Pick up mechanically.
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## SECTION 7: Handling & Storage

<b>Storage:</b>	Store at -20°C
<b>Handling:</b>	No special precautions are necessary if used correctly. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated exposure. Keep away from sources of ignition. Take precautionary measures against static discharge.

## SECTION 8: Exposure controls / Personal Protection

<b>Respiratory Protection:</b>	 <p>If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.</p>
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<b>Skin and Body:</b>	  <p>Wear protective gloves and protective clothing.</p> <p>The glove material must be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.</p>
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<b>Eyes:</b>	 Tightly-sealed goggles
<b>Ventilation/Engineering Measures:</b>	Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hygiene:</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Other:</b>	N/A

## SECTION 9: Physical and Chemical Properties

<b>Appearance &amp; Odor:</b>	White to off-white solid
<b>Formula</b>	$C_4H_{11}N_5 \cdot HCl$
<b>Molecular Wt.</b>	165.6
<b>Melting Pt.</b>	No data available
<b>Boiling Pt.</b>	No data available
<b>Density:</b>	No data available
<b>Vapor Pressure:</b>	No data available
<b>Evaporation Rate:</b>	No data available
<b>Vapor Density:</b>	No data available
<b>Solubility:</b>	PBS
<b>Flash Point:</b>	No data available
<b>Autoignition Temp:</b>	No data available

## SECTION 10: Stability and Reactivity

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Hazardous decomposition products:</b>	Carbon oxides, hydrogen oxides, nitrogen oxides
<b>Materials to Avoid:</b>	Strong oxidizing agents
<b>Conditions to avoid:</b>	No data available

## SECTION 11: Toxicological Information

<b>RTECS#:</b>	DU1800000
<b>ACUTE Toxicity:</b>	Oral LD50 = 1,450 mg/kg (mouse)

	<p>Oral LD50 = 1 g/kg (rat)          Intraperitoneal LD50 = 500 mg/kg (rat)          Subcutaneous LD50 = 300 mg/kg (rat)</p>
<b>CHRONIC Toxicity:</b>	N/A
<b>Chronic Exposure:</b> <b>Carcinogen:</b> <b>Mutagen:</b> <b>Teratogen:</b> <b>Reproductive:</b>	<p>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> <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 ACGIH.</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>

## SECTION 12: Ecological Information

<b>Ecotoxicity:</b>	Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
<b>Mobility:</b>	No data available
<b>Persistence and degradability:</b>	No data available
<b>Bioaccumulative potential:</b>	No data available
<b>Other adverse effects:</b>	No data available
<b>Corrosivity Characteristic:</b>	No data available
<b>General Notes:</b>	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

## SECTION 13: Disposal Considerations

<b>Residue Waste or Unused product:</b>	Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
<b>Contaminated Packaging:</b>	Dispose of as unused product.

## SECTION 14: Transportation Information

<b>UN ID#:</b>	N/A
<b>ADR / RID (LAND):</b>	Not regulated

<b>DOT regulations:</b>	Not regulated
<b>IMDG/IMO (SEA):</b>	Not regulated
<b>IATA/DGR (AIR):</b>	Not regulated
<b>Special Provisions:</b>	N/A

## SECTION 15: Regulatory Information

<b>Health Phrases:</b>	<p>H302 Harmful if swallowed.  H319 Causes serious eye irritation.  P264 Wash thoroughly after handling.  P270 Do not eat, drink, or smoke when using this product.  P280 Wear eye protection / face protection.  P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  P330 Rinse mouth.  P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  P337+P313 If eye irritation persists: Get medical advice/attention.  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.</p>
<b>Risk Phrases:</b>	N/A
<b>Safety Phrases:</b>	N/A
<b>EU Regulations:</b>	N/A
<b>US Regulations:</b>	<p>TSCA: Not listed  California Proposition 65: Not listed</p>
<b>U.S. Federal Regulations:</b>	<p>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.</p> <p>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: WARNING; Acute toxicity (Cat. 4); Eye irritation (Cat. 2A)</p>
<b>WHMIS (Canada):</b>	N/A

## SECTION 16: Other Information



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