Section 1. Product and Company Identification

Product Name  Metformin Hydrochloride
Product ID    M2076
Chemical Name (Synonyms)  Dimethylbiguanide hydrochloride; Imidodicaromimidic diamide; N,N-dimethyl-, monohydrochloride; N,N-Dimethylbiguanide hydrochloride
Supplier      LKT Laboratories, Inc
              545 Phalen Blvd.
              St. Paul, MN 55130 USA
              Ph: 651-644-8424 Fax: 651-644-8357
              www.lktlabs.com - getinfo@lktlabs.com
Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification
Acute toxicity, Oral (Category 4), H302
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319

GHS Label elements including precautionary statements

Pictogram

Signal word  Warning

Hazard and precautionary statements

Hazard statements
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/ eye protection/ face protection.
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment (see supplemental first aid instructions on this label).
P330 - Rinse mouth.
P332 + P333 - If skin irritation occurs: Get medical advice/ attention.
P357 + P313 - If eye irritation persists: Get medical advice/ attention.
P362 - Take off contaminated clothing and wash before reuse.
P501 - Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Chronic health hazard: 0
Flammability: 0
Physical hazard: 0

NFPA Rating
Health hazard: 2
Fire hazard: 0
Reactivity hazard: 0

Potential Health Effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes serious eye irritation.
Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th>Formula</th>
<th>CAS No.</th>
<th>Formula Wt.</th>
<th>EC No.</th>
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<tbody>
<tr>
<td>Formula</td>
<td>C₄H₁₁N₅ • HCl</td>
<td>1115-70-4</td>
<td>165.62</td>
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</tr>
<tr>
<td>CAS No.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Eye Contact
Flush eyes with water for at least 15 minutes and consult a physician.

Skin Contact
Wash with soap and water and consult a physician.

Inhalation
If breathed in, Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5. Firefighting Measures

Flash Point
Not available.

Extinguishing Media
Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Firefighting Procedures
Wear self-contained breathing apparatus for firefighting if necessary.

Unusual Fire Hazards
Not available.

Section 6. Accidental Release Measures

Personal Precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation.

Environmental Precautions
Do not let product enter drains.

Methods and materials for containment and cleanup
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

Storage Conditions
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: Ambient
Storage class (TRGS 510): Non Combustible Solids

Hazardous Decomposition Products
Carbon oxides, nitrogen oxides (NOx), hydrogen chloride gas.

Other Remarks
None
**Section 8. Exposure Controls/Personal Protection**

**Personal protective equipment CONTROLS**
Contains no substances with occupational exposure limit values. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**PROTECTIVE EQUIPMENT**

**Eye protection:** Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full and Splash contact: Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min., Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M).

**Body protection:** Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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**Section 9. Physical and Chemical Properties**

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<tr>
<th>Physical State</th>
<th>Color</th>
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<tbody>
<tr>
<td>Solid.</td>
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<table>
<thead>
<tr>
<th>Boiling Point</th>
<th>Volatility</th>
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<thead>
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</table>

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</table>

<table>
<thead>
<tr>
<th>Lower explosion limit</th>
<th>Autoignition temperature</th>
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</table>

<table>
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<th>Upper explosion limit</th>
<th>Vapor pressure</th>
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</table>

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<thead>
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<table>
<thead>
<tr>
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<th>Odor Threshold</th>
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<table>
<thead>
<tr>
<th>Relative vapor density</th>
<th>Evaporation rate</th>
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</thead>
<tbody>
<tr>
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<td>Not available.</td>
</tr>
</tbody>
</table>

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**Section 10. Stability and Reactivity**

**Stability**
Stable under recommended storage conditions.

**Materials To Avoid**
Not available.

**Hazardous Decomposition Products**
Carbon oxides, nitrogen oxides (NOx), hydrogen chloride gas.
Section 11. Toxicological Information

**Oral LD50**
- Rat: 1,000 mg/kg
- Mouse: 1,450 mg/kg

**Inhalation LC50**
- Not available.

**Dermal LD50**
- Not available.

**Other information on acute toxicity**
- Not available.

**Skin corrosion/irritation**
- Skin - Rabbit: Result: Mild skin irritation.

**Serious eye damage/irritation**
- Eyes - Rabbit: Result: Mild eye irritation.

**Respiratory or skin sensitization**
- Not available.

**Germ cell mutagenicity**
- Not available.

**Carcinogenicity**
- 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.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity**
- Not available.

**Teratogenicity**
- Not available.

**Specific organ toxicity single exposure (GHS)**
- Not available.

**Specific organ toxicity repeated exposure (GHS)**
- Not available.

**Aspiration Hazard**
- Not available.

**Synergistic effects**
- Not available.

**Additional Information**
- RTECS: DU1800000
- To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Potential Health Effects**
- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Skin: May be harmful if absorbed through skin. Causes skin irritation.
- Eyes: Causes serious eye irritation.
- Ingestion: Acute toxicity. Harmful if swallowed.

Section 12. Ecological Information

**Toxicity**
- Not available.

**Mobility in soil**
- Not available.

**PBT and vPvB assessment**
- Not available.
Section 13. Disposal Considerations

Waste Disposal
Dispose of material according to all federal, state, and local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of as unused product.

Section 14. Transport Information

DOT (US) Not dangerous goods.
IATA Not dangerous goods.
IMDG Not dangerous goods.

Section 15. Regulatory Information

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components Acute Health Hazard

Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Metformin Hydrochloride CAS#: 1115-70-4 Revision Date:

New Jersey Right To Know Components Metformin Hydrochloride CAS#: 1115-70-4 Revision Date:

California Prop 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.