MATERIAL SAFETY DATA SHEET OF

ACETAMIPRID 20% SP

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY
Supplier: SHANGHAI MINGDOU AGROCHEMICAL CO., LTD
Address: Rm. 1210, Zhenyuan Building, No. 2052 North Zhongshan Rd, Shanghai, China
FAX: +86 21 52912097, 61638378
TEL: +86 21 52912919, 52045380, 52045370
Product name: Acetamiprid 20% SP

2. COMPOSITION/INFORMATION ON INGREDIENTS
Formulation Type: Water soluble powder
Active Ingredients: Acetamiprid
Chemical Abstracts name: (E)-N-[(6-chloro-3-pyridinyl)methyl]-N'-cyano-N-methylethanimidamide
CAS NO. 135410-20-7
Molecular Formula: C_{10}H_{11}ClN_{4}
Molecular Weight: 222.7
Structural Formula:

Other ingredients determined not to be hazardous

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>CAS NO</th>
<th>PROPORTION</th>
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<tbody>
<tr>
<td>Acetamiprid</td>
<td>135410-20-7</td>
<td>≥20%</td>
</tr>
<tr>
<td>other</td>
<td>Not available</td>
<td>≤80%</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION
HUMAN HEALTH HAZARDS: Harmful if swallowed. May cause slight sensitization by skin content.
ENVIRONMENTAL HAZARDS: Toxic to aquatic organisms.
ROUTES OF EXPOSURE: Dust inhalation, Skin absorption, Ingestion, Eye contact, Inhalation.
IMMEDIATE EFFECTS
General: Avoid contamination of food. Keep away from domestic animals.
Eye: Moderately irritating.
Skin: Mildly irritating. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using toilet.
Ingestion: Harmful if swallowed. Use of alcoholic beverages may enhance toxic effects.
Inhalation: Can cause upper respiratory tract irritation.
Chronic or Delayed: Prolong contact can cause liver damage. Kidney damage, Central nervous Long-Term system damage, anemia.
Target Organs: Eyes, Lungs, Skin, Kidney, liver, Blood, Bladder.

4. FIRST AID MEASURES
EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
SKIN: Take off contaminated clothing and shoes while washing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.
INHALATION: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN: There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient.

5. FIRE FIGHTING MEASURES
EXPLOSIVENESS: Will form dust explosive mixtures in air.
EXTINGUISHING MEDIA: dry chemical, alcohol foam, water spray, carbon dioxide (CO₂).
FIRE-FIGHTING EQUIPMENT: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and
deny entry. Stay upwind if possible. Keep out of low areas. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

6. ACCIDENT RELEASE MEASURES
EVACUATION PROCEDURES AND SAFETY: Personnel handling this material should be thoroughly trained to handle spills and releases. Wear appropriate gear for the situation. See Section 8.
CLEANUP AND DISPOSAL OF SPILL: Sweep up and place in an appropriate closed container (see Section 7: Handling and Storage). No sparking tools should be used. Avoid creation of dusty conditions. Clean up residual material by washing area with water and detergent. Collect washings for disposal. Decontaminate tools and equipment following cleanup.
LAND SPILL OR LEAKS: Containment of Spill: Stop leak if it can be done without risk. Follow procedure under Cleanup and Disposal of Spill.

7. HANDLING AND STORAGE
HANDLING PROCEDURES: Keep out of reach of children and animals. Personnel handling this product should be thoroughly trained as to its hazards. Use non sparking tools and grounded/ bonded equipment and containers when transferring. Do not ingest. Do not breathe dust or mists. Avoid getting material on clothing. Use handling, storage and disposal procedures that will prevent contamination of water, food or feed.
STORING PROCEDURES: Do not store in or around the home. Store unused product in a cool, ventilated, dry, locked area. Never transfer this product to another container for storage. Do not allow prolonged storage in areas where temperature frequently exceed 115 deg F (46 deg C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
PERSONAL PROTECTION EQUIPMENT: Wear protective clothing. When needed, use respirator for pesticide.
EYE PROTECTION: Using chemical safety glasses, goggles.
HAND PROTECTION: Gloves should be used when handling.

9. PHYSICAL AND CHEMICAL PROPERTIES
Form: powder.
Color: light blue or off white.
Odor: no specific odor.
Flash point : not highly flammable.
Explosive properties: not explosive.
Solubility: soluble in water (soluble powder).

10. STABILITY AND REACTIVITY
STABILITY: Stable under normal condition for at least two years.
CONDITIONS TO AVOID: Alkali, heat and moisture.
MATERIALS TO AVOID: Alkali materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Proposed: NaOH, Na₂CO₃ etc.

11. TOXICOLOGICAL INFORMATION
ACETAMIPRID 20% SP:
ACUTE ORAL TOXICITY: LD₅₀: for rats 1064 mg/kg.
ACUTE DERMAL TOXICITY: LD₅₀: >2000 mg/kg (rats).
ACUTE INHALATION TOXICITY: LC₅₀: 2.88 mg/l (rat).
EYE IRRITATION: moderately irritant (rabbit).
SKIN IRRITATION: slightly irritant (rabbit).

ACETAMIPRID:
ACUTE ORAL TOXICITY: LD₅₀: for male rats 217, female rats 146, male mice 198, female mice 184 mg/kg.
ACUTE DERMAL TOXICITY: LD₅₀: >2000 mg/kg (rats).
ACUTE INHALATION TOXICITY: LC₅₀: >0.29 mg/l (rat).
EYE IRRITATION: not irritant (rabbit).
SKIN IRRITATION: not irritant (rabbit).
SKIN SENSITIZATION: not a skin sensitizer (guinea pigs).
NOEL (2 y) for rats 7.1 mg/kg b.w.; (18 mo) for mice 20.3 mg/kg b.w.; (1 y) for dogs 20 mg/kg b.w.
ADI 0.066 mg/kg
Negative in the Ames test.

12. ECOLOGICAL INFORMATION
ENVIRONMENTAL PRECAUTIONS: This product is toxic to wildlife. This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treated area. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Do not contaminate water used for irrigation or domestic purposes.

THE FOLLOWING INFORMATION IS FOR THE ACTIVE INGREDIENT, ACETAMIPRID.
BIRDS Acute oral LD₅₀: 180 mg/kg (bobwhite quail). Dietary LC₅₀: >5000 ppm (bobwhite quail).
FISH LC₅₀ (24-96 h): >100 mg/l (carps).
DAPHNIA LC₅₀ (24 h): >200 mg/l.
ALGAE EC₅₀ (72 h): >98.3 mg/l.
Chronic NOEC (96 h): 98.3 mg/l.

13. DISPOSAL CONSIDERATION
GENERAL DISPOSAL GUIDANCE: Do not contaminate water, food, or feed by storage or disposal. Contamination with this product will render water, food or feed unfit for human or animal consumption.
CONTAINER DISPOSAL: Triple rinse the empty container. Add the rinsing to the spray mixture in the tank. Make the empty rinsed container unsuitable for further use. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency.

14. TRANSPORT INFORMATION
Classification Data: Not hazardous regulated Hazard Class or Division.
Non-regulated IMO/IMDG Code (Ocean)

15. REGULATORY INFORMATION
Keep locked up out of reach of children and other, unauthorized persons. Keep away from food, drink and animal feeding stuffs.
Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Do not get in eyes, on skin or on clothing. Do not breathe dust, vapor or spray mist.
In case of accident if you feel unwell, seek medical advice immediately.
This material and its container must be disposed of in a safe way.

16. OTHER INFORMATION
This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.
If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.
END OF MSDS