MATERIAL SAFETY DATA SHEET OF

METALDEHYDE 6% GR

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: Zhejiang Xinan Chemical Industrial Group Co., Ltd.

Street address: Xinanjiang, Jiande, Zhejiang, 311600, China.

TEL: +86-571-87220467 **FAX:**+86-571-87220464

Product name: Metaldehyde 6% GR

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Granule(GR)

Active Ingredients: Metaldehyde

Chemical Abstracts name: 2,4,6,8-tetramethyl-1,3,5,7-tetraoxacyclooctane

CAS NO.: 108-62-3

Molecular Formula: C₈H₁₆O₄

Molecular Weight: 176.2

Structural Formula:

Other ingredients determined not to be hazardous

INGRIDIENT	CAS NO	PROPORTION
Metaldehyde	108-62-3	≥6%
others	Not available	≤94%

3. HAZARDS IDENTIFICATION

Emergency overview:

CAUTION! May be harmful if swallowed, inhaled, or absorbed through the skin. Do not breathe dust, get in eyes, on skin or clothing. Keep away from children. Do not contaminate water supplies.

Routes of entry: Typical routes of entry are skin or eye contact, ingestion of granules, and inhalation of dusts.

Health hazards:

Signs of acute overexposure: Based on animal toxicity information for metaldehyde, it is anticipated that this material would be harmful upon ingestion and that direct contact may elicit mild eye and skin irritation. Overexposure to metaldehyde may cause excessive salivation, vomiting, nausea, acetonuria (odor of acetone on breath), convulsions, increased body temperature, depression of medullary respiratory and vasomotor control centers. Coma. May be fatal. [Note: Because of the low amounts of metaldehyde in the product, it is unlikely the victim can be exposed to sufficient quantities of metaldehyde to have coma or death induced.]

4. FIRST AID MEASURES

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Skin contact: Immediately wash contaminated area with soap and warm water. Remove contaminated clothing. Wash clothing before reuse. If skin irritation develops, contact a physician immediately.

Eye contact: Immediately flush the eyes with copious amounts of clear, cool running water for a minimum of 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Contact a physician immediately if irritation develops or persists.

Ingestion: If swallowed, immediately give 3-4 glasses of water. DO NOT induce vomiting. If vomiting occurs, give fluids again. Get immediate medical attention. Have physician determine if patient's condition allows induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.

Inhalation: Remove victim to fresh air. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen. Contact a physician immediately.

Note to physician: Gastric lavage should be considered if potentially life-threatening levels of Metaldehyde have been ingested, if the procedure can be performed within one hour of ingestion. Administration of Diazepam or Clonidine 20 minutes after ingestion of 1000 mg/kg of Metaldehyde by mice delayed the onset of symptoms and reduced mortality. This is equivalent to 0.6 lb of product ingested for a 10 kg child. Therefore, Diazepam and Clonidine may be appropriate antidotes to reduce the symptomatology of Metaldehyde ingestion. For acute inhalation overexposure, the patient should be monitored as respiratory failure may occur 24 to 48 hours after exposure. Contact your local or state Poison Control Center for more information.

5. FIRE FIGHTING MEASURES

Flash point: Not applicable.

Flammable limits:

LFL: Not determined.

UFL: Not determined.

Autoignition temperature: Not determined.

Hazardous combustion products: Burning may produce: toxic and corrosive vapours/gases.

Extinguishing media: Dry chemical. Water. Foam. Carbon Dioxide.

Fire-fighting instructions: Fight fire from safe distance and protected location.

Protective equipment for firefighters: Wear suitable protective clothing. Self-contained breathing apparatus with full face shield.

6. ACCIDENT RELEASE MEASURES

Personal precautions: Use adequate ventilation and air-supplied respirators, as well as impervious clothing and safety goggles. Keep bystanders upwind and away from the spill.

Environmental precautions: Prevent material from entering sewers, waterways, or low areas.

Method for cleaning up: Sweep or vacuum the spilled product into a closed container for reuse according to the label or for disposal as a hazardous waste.

7. HANDLING AND STORAGE

Handling: Read the label before use. Prevent formation of clouds of dust. Do not breathe dust. Wear suitable protection.

Storage: Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Store in a frost-free, dry, cool, well-ventilated area according to national or local legislation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: No exposure limits have been established for this material.

Engineering controls: Provide adequate ventilation to minimise dust and/or vapour concentrations.

Personal protective equipment (PPE):

Respiratory protection: Dust filter.

Skin protection: Working clothes.

Hand protection: PVC gloves.

Eye protection: In the event of possible exposure: eye protection.

User safety recommendations: When using, do not eat, drink or smoke. Wash hands and face with soap and water before the break. Shower after work. Wear clean working clothes every day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Flowable granule.

Odor: Mild aldehyde odor.

Solubility in water: Not soluble.

Melting point: not applicable

Vapor pressure: negligible

Flammability: Not flammable.

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal storage and use conditions. Moisture can cause very slow

hydrolysis of active ingredient.

Conditions to avoid: None known.

Hazardous decomposition: Acetaldehyde can be formed by decomposition of Metaldehyde.

Decomposition by burning may result in carbon monoxide and other toxic fumes and vapors of unknown

composition.

Incompatible materials: Avoid oxidizing materials.

Hazardous reactions: Metaldehyde is already a polymer. Further polymerization is unlikely.

11. TOXICOLOGICAL IMFORMATION

No data is available for this product. Information on the active ingredient, Metaldehyde, is given below to help you to determine the potential toxicity of this product.

METALDEHYDE

Acute toxicity:

Oral: LD_{50} 283 mg/kg

Dermal: $LC_{50} > 5000 \text{ mg/kg}$

Inhalation: $LD_{50} > 5 \text{ mg/L (4 hr, aerosol)}$

Irritant properties:

Skin: Not an irritant

Do not contaminate water bodies.

Eye: Essentially not an irritant. All transient minor inflammation cleared by day 2, post dose.

Allergenic and sensitizing effects: Not considered to be a skin sensitizer (Guinea pig).

12. ECOLOGICAL IMFORMATION

This product may be fatal to dogs, other pests, and wild animals if eaten. May be toxic to water inhabitants.

METALDEHYDE

Birds Acute oral LD₅₀ for quail 170 mg/kg. Dietary LC₅₀ (8 d) for quail 3460mg/l.

Fish LC_{50} (96 h) for rainbow trout 75 mg/l.

Daphnia EC_{50} (48 h) >90 mg/l.

Algae EC_{50} (96 h) 73.5 mg/l.

Bees LD_{50} (oral) >87 µg/bee; (contact) >113 µg/bee.

Worms $LC_{50} > 1000 \text{ mg/l}.$

13. DISPOSAL CONSIDERATION

Wastes resulting from the use of this product may be disposed on site by use according to the label or at an approved waste disposal facility. State and local authorities should be contacted to determine the current regulations.

The container may be disposed in a sanitary landfill or by incineration after completely emptying the bag into the application equipment. State and local authorities should be contacted to determine the current regulations.

14. TRANSPORT INFORMATION

General Information: Free for transport regulations.

Proper shipping name: Not regulated

DOT Class: Not regulated

Marine pollutant: Not regulated

Packing Group: Not regulated

15. REGULATARY INFORMATION

Hazard symbols:

None

Risk phrases:

None

Safety phrases:

S2 - Keep out of the reach of children.

S13 - Keep away from food, drink and animal feedingstuffs.

S20/21 - When using, do not eat, drink or smoke.

S22 - Do not breathe dust.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).

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