Material Safety Data Sheet

2,4-D 98% Tech

1. Chemical Product / Company Identification

Product name: 2,4-D 98% TC
Active Ingredient: 2,4-D
Manufacturer: Changzhou Good-Job Biochemical Co., Ltd
Add: No. 398, Middle Tongjiang Road,Xinbei District,Changzhou,Jiangsu,China
Phone Numbers: Tel: 86-519-85153978
Fax: 86-519-85153975

2. Composition/Information on Ingredients

Components	CAS Number	%
2,4-D	94-75-7	98%
Other ingredients	-	to 100%

3. Hazard identification

Emergency Overview:
Warning Statements: Keep out of reach of children. DANGER. Corrosive. Causes irreversible eye damage. Harmful if swallowed. Avoid inhaling vapor or spray mist. Do not get in eyes or on clothing.
Potential Health Effects:
Likely Routes of Exposure: Inhalation, eye and skin contact.
Eye Contact: Causes irreversible eye damage. Vapors and mist can cause irritation.
Skin Contact: This product is considered a minimal skin irritant and is not a dermal sensitizer. Overexposure by skin absorption may cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.
Ingestion: Harmful if swallowed. May cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, muscle spasms.
Inhalation: Overexposure may cause upper respiratory tract irritation and symptoms similar to those from ingestion.
Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.
Potential Environmental Effects: Toxic to aquatic invertebrates

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4. First Aid Measures

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 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.

If Swallowed: 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. Do not give anything by mouth to an unconscious person.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. Fire Fighting Measures

Flash Point: Will not burn until water component is driven off

Auto ignition Temperature: Not determined

Flammability Limits: Not flammable

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): Under fire conditions, may produce gases such as hydrogen chloride, nitrogen oxides, and carbon oxides.

6. Accidental Release Measures

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways.

Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Clean-Up and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

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7. Handling and Storage

Handling:

Do not get in eyes or on clothing. Avoid inhaling vapor or spray mist. Remove saturated clothing as soon as possible and shower. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately, if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protection Equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage:

Always store pesticides in a secured warehouse or storage building. Store at temperatures above 32°F. If allowed to freeze, rewarm to 40°F, remix thoroughly before using. This does not alter this product.

Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides. Do not contaminate water, food or feed by storage or disposal.

8. Exposure Controls/Personal Protection

Engineering Controls:

If this container is five gallons or more in capacity, do not open pour product from this container. A mechanical system (such as a probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide containers are emptied, the probe must be rinsed before removal.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear face shield, goggles or safety glasses with front, brow and temple protection. An emergency eyewash should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves. An emergency shower should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

9. Physical and Chemical Properties

Active ingredient: 2,4-D

Content: 98%

Chemical formula: $C_8H_6Cl_2O_3$

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Molecular weight: 221.04 g/mol
Solubility in water: 23.2 g/mL
Appearance: White powder
Density: 1.57g/ml

10. Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C.
Incompatibilities: No particular incompatibilities.
Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.
Polymerization: This product is unlikely to undergo polymerization processes

11. Toxicological Information

This section is intended for use by toxicologists and other health professionals. Data obtained on similar products and on components are summarized below.
Toxicity:
Oral: LD_{50}=469 mg/kg b.w. for both male and female rats.
Skin and eye: Dermal LD_{50} for rats >2000 mg/kg/kg b.w. No irritation to Skin and eye (rabbits). Not a skin sensitizer (guinea pigs).
Inhalation: LC_{50} (24 h) for rats >1.5 mg/l.

12. Ecological Information

Birds: Acute oral LD_{50} for wild ducks >1000mg/l, Japanses quail 668mg/l, pigeons 668mg/l, pheasants 472mg/kg. LC_{50} (96h) for mallard ducks >5620mg/l.
Aquatic organisms: LC_{50} (96h) for rainbow trout >100mg/l., EC_{50} = 100 mg/l (48 h) for Daphnia magna; EC_{50} (5 d) for *Selenastrum capricornutum* =33.2 mg/l.
Honeybees: Acute oral LD_{50}= 94 μg/bee, Acute contact LD_{50}= 100μg/bee
Earthworm: LC_{50} (7 d) =860 mg/kg
Soil microorganisms: No adverse effect nitrogen mineralisation and carbon mineralisation.

13. Disposal Considerations

Dot not contaminate water, food or feed by storage or disposal.

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Waste Disposal Method:

Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law and may contaminate ground water. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

Container Handling and Disposal:

Do not reuse empty container. Triple rinse (or equivalent), adding rinsate to spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. Transportation Information

This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

15. Regulatory Information

There is no special information for it.

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 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 this company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

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