



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO.,LTD

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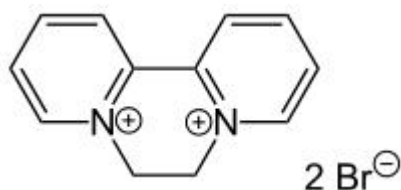
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### 1. Chemical Product Identification

Product name: Diquat 95% TC

Molecular Formula:  $C_{12}H_{12}Br_2N_2$

Structural Formula:



Chemical name: 9,10-dihydro-8a,10a-diazoniaphenanthrene dibromide

Molecular Weight: 344.05

Chemical family: Herbicide

Form: Solid

Color: Colorless to yellow

Odor: Odorless

CAS No.: 85-00-7

UN NO.: 1760

### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Diquat	85-00-7	95.0
Other ingredients	---	5.0

### 3. Hazards Identification



Hazardous decomposition products: Flammable hydrogen gas may be formed on contact with aluminum. May decompose at high temperatures forming toxic gases.

Environmental hazards: This product is toxic to aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Risk phrases:

Very toxic by inhalation.

Harmful if swallowed.

Irritating to eyes, respiratory system and skin.

May cause sensitization by skin contact.

Very toxic to aquatic organisms, may cause long-term adverse effects in the Aquatic environment.

#### **4. First Aid Measures**

If swallowed: Call a physician or poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

If inhaled: Move person to fresh air. If person is not breathing, then give artificial respiration, preferably mouth to mouth if possible. Call a poison control centre or doctor for further treatment advice.

If on skin or clothing: Wash with plenty of soap and water. Get medical attention if irritation persists.

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 for treatment advice.

Note to physician: There is no specific antidote if this product is ingested. Treat symptomatically.

#### **5. Fire-Fighting Measures**

Extinguishing media: Water fog, carbon dioxide, dry chemical, halogenated agents.

Fire fighting instruction: Evacuate nonessential personnel to prevent exposure to



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fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Dike and collect any runoff to prevent entry to drains or water bodies.

Firefighting equipment: Self-contained breathing apparatus and full bunker gear.

Hazardous combustion products: Thermal decomposition may result in irritating and possibly toxic gasses.

## **6. Accidental Release Measures**

Steps to be taken in case material is released or spilled:

Appropriate protective equipment must be worn when handling a spill of this material. Isolate area and keep out unprotected person. Stop leak at source. Carefully sweep up dry spilled material and collect into labeled containers for proper disposal. If liquid, dike and absorb with inert material. This material is toxic to aquatic organisms. Prevent run-off to storm sewers and ditches leading to natural waterways. Report spill as required by local and federal regulations.

## **7. Handling And Storage**

This product reacts with aluminum to produce flammable hydrogen gas. Do not mix or store in containers or systems made of aluminum or having aluminum fittings.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in area where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

## **8. Exposure Controls/Personal Protection**

Engineering controls: Handle only with adequate ventilation. Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

Protective clothing: Chemical-resistant gloves, chemical resistant footwear plus socks, protective eyewear, coveralls over short-sleeved shirt and short pants or coveralls over long-sleeved shirt and long pants. Chemical-resistant headgear from overhead exposure. Chemical-resistant apron when cleaning equipment, mixing or loading. Face shield when mixing or loading.



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## **9. Physical and Chemical Properties**

Appearance: Colorless to yellow solid.

Odor: Odorless.

Water Solubility: 700 g/l

Solubility in Other Solvents: Slightly soluble in alcohols and hydroxylic solvents(25g/l).

Insoluble in non-polar organic solvents(<0.1g/l).

Melting Point: decomposes before melting.

Density : 1.61g/cm<sup>3</sup> at 25°C

Vapor Pressure: <0.01mPa

Partition Coefficient: -4.6

## **10. Stability and Reactivity**

Stability: Stable in neutral and acidic solutions, but readily hydrolysed in alkaline solutions.

Hazardous polymerization: Will not occur.

Conditions to avoid: Should not be stored in aluminum containers. Should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.

Materials to avoid: Strong alkalis and anionic wetting agents (such as alkyl and alkylaryl sulfonates). Corrosive to aluminum.

Hazardous decomposition products: Flammable hydrogen gas may be formed on contact with aluminum. May decompose at high temperatures forming toxic gases.

## **11. Toxicological Information**

Acute oral LD50 for rat: 1000 a.i.mg/kg.

Acute dermal LD50 for rat: 2000 a.i.mg/kg.

Inhalation LC50 (4 h) for rat: >0.5 a.i.mg/L.

Skin irritation: Slightly irritating to skin (rabbits).

Eye irritation: Slightly irritating to eyes (rabbits).

Skin sensitization: Not a contact sensitizer (guinea pigs).

## **12. Ecological And Ecotoxicological Information**

Effect on birds: high toxicity to birds, acute LD50 for Mallard ducks is 71 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 67.0



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a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for *Daphnia magna* is 1.2 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for *Pseudokirchneriella subcapitata* is >0.011 a.i.mg/L.

Effect on honeybees: moderate toxicity to honeybees, contact acute 48 hour LD50 is >20.1 a.i.µg/bee, oral acute 48 hour LD50 is 50.7 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 is 94.3 a.i.mg/kg.

### **13. Disposal Considerations**

Waste disposal method: Dispose in accordance with local, state/provincial and federal regulations. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixtures or rinsate is violation of federal law.

Container disposal method: Completely empty container into application equipment. Do not reuse empty container. Then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

### **14. Transport Information**

Description: Environmentally hazardous substances, corrosive solid, n.o.s. (Diquat dibromide).

Marine pollutant: Yes.

### **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 or if you feel unwell, seek medical advice immediately.

This material and its container must be disposed of in a safe way.

Do not contaminate any body of water.

### **16. Other Information**



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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.