



Industrial Circulating Water and Waste Water Germicide and Algicide

New Generation Germicide and Algicide
Rosun Disinfectant Powder ICW-01

— Potassium Monopersulfate Compound Powder (PMPS)

Chengdu Rosun Disinfection Pharmaceutical Co., Ltd.

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Company Profile

Chengdu Rosun Disinfection Pharmaceutical Co., Ltd., established in 2002, is a large high-tech enterprise that focuses on R&D, production and application of high-end environmental germicide, algicide and water treatment products, also specialized in water treatment engineering design, operation and management.

Our company has got ISO9001, ISO14001 & OHSAS18001 certificates, and established 26 service offices in the major capital cities of China. Marketing network is all over the world, our products have been exported to more than 20 countries and regions in Asia, Africa, Europe, America, Oceania, etc.

Rosun disinfectant powder (IVV-0, sectualve active oxygen germicide and skjölde, great and ecoffinedly, will greatly improve the treatment efficiency of industrial waste water and industrial circulating cooling water, reduce traditional disinfectant risk in the process of production, transportation and use, and can avoid the harm to the environment and human body effectively which traditional choinné disinfectant caused.

We take the business philosophy " focus, concentration, profession". Rosun and Rosun people will continue to protect millions of people's health well as always!





Product Introduction

The main impedient of Resur disinfectant powder (CWO-11 is potassium monopersulfate compound peaker (RMPS). Processed through the balance system, PRPS continuously related active crypts by the chain residon in the water, and further produce potassium suifate and a warvely of celler impedients, such as hypochrous activatifies the residon. Hydrogen promite free residually hydrogy free residual, the CT Toses free residuals have strong oxidation self-light secreting that of the chirties, possible primary participation of the production of the control production of the control of the

Rosun disinfectant powder (CNO1 is applicable to the industrial circulating water and waste water for sterilization and algae removal, and it can replace non-oxidation fungicide like isofrizazionno and quaternary ammonium sait partly even fully. Monover,if can avoid the COD increasing and secondary pollution of circulating water. This product has good compatibility with common corrosion scale inhibitor and does not affect its performance.





Physical Characters

Main ingredient: Potassium monopersulphate compound salt, sodium chloride

Activity: Total active oxygen [O]: 7.0% ~9.0% Form: White powrier

Solubleness: Soluble in water

Bulk density: 0.9a/cm³

Period of validity: 24 months in room temperature storage





Direction for Use

- Scope of application: Applicable to the industrial circulating water and waste water for sterilization and algae removal in the realm of petrochemical industry, electric power industry, metallurur, ferfilizer, oil avoiolisation, etc.
- * Dosage: 8-15g/m³(for normal water quality), 30g/m³(for material leakage)
- * Dosing method: Directly add into the water inlet of the pool or circulating water pump
- * Material to avoid: reductant, acids, inflammable, organics, heavy metallic salt, cyanide, halide

Product Mechanism

PMPS elicit cycle dynamic chain reaction after soluble in water under the synergy of the best match raw materials, decompose of a large number of active oxygen(Dland obtain a variety of active ingredients, such as the hydroxy free micaller-(DHI, hydrogen peroxide free radical [H₂O₂], hypochiorous acid HCiO,eto.Sterilize and kill algae cooperatively.



Cycle Dynamic Chain Reaction



Mechanism of Action

- Rosun disinfectant powder ICW-01 produces high energy & high active ingredients ,such as[O], [SO₄*],[-OH],which can oxidize and chlorinate the pathogen,and kill breeding bacteria.
- The active oxygen ion and chloride penetrate the cell wall and cell membrane into cell nucleus and kill the bacteria rapidly. It also can produce hydroxyl free radical to destroy genetic system.
- It can increase the permeability of cell membrane, causing pathogen cell enzymes and nutrients lose, and protein denaturation, and thus kill the pathogen.

Product Features

* High efficiency broad - spectrum

The unprecedented high concentration active ingredient can kill harmful improrganism spacing and completely kill yellow file or facilitation (Ingl. Ryo.), I cell and HCO) make this product have super bread-spectrum scritization effect, the antibacterial sportum includes bacteria, viruses, fungi, bacterias spores, protocos, algae spores, etc. especially for the microorganisms formed silms. And it is capable of stropping the silms and algal layer. The stratifization delivery of the strategian production of the strategian production of the strategian production and the strategian and the strategian and the strategian and the strate

* Environmental protection

Rosum disinfectant powder (CWO1 is a kind of active oxygen disinfectant, will not combine with the carcinogenic precursors such as the element of humic acid which exist in the water, thus can reduce and prevent the production of harmful substances that may lead to carcinogenesis, teratogenesis and mutagenesis, such as organic chrioride, THMS and chloroform. This product is no harm to human bodyward is a real recon exemiside and aloidide.

+ Safety

This product is a power disinfectant, so there is no danger exists during the production, transportation, storage and application which liquid chlorine causes.

* Easy operation

Add the powder directly, do not need extra equipment and specialized technical personnel.

07/08

It has synergistic effect when used with common corrosion inhibitor, reduces the dosage of no oxidizing blocide, dosing frequency and the pressure of environmental discharge, also lowers the corrosion of equipment and prolongs the service life, and also can reduce the dosage of the corrosion inhibitor at the same time.

* Cost-effective

* Synergistic effect

The sterilizing effect of this product is significantly higher than traditional disinfectant products containing "chlorine", and only need the dosage of 30%-40% of traditional oxidizing blocidies such as socialum dichloroiscopanurate, chlorine butlocks, etc. So it can lower costs to the factories and save social resources as well.

* Stable

Under different cooling water quality and operating conditions, and in a wide range of PH and temperature, it is still effective without decomposition.



Comparisons

1.Characteristic comparison

Liquid chlorine	Sodium dichloroisocyanurate	Chlorine dioxide	Chlorine tablet	Rosun disinfectant power ICW-01
* Low -cost	* Easy to use	* Good disinfection	* Restrain the breed of	*Safety and environmental protection
* Long history, experienced	* Easy to transport	effect * Small dosage	bacterium	★Small dosage,only 30%~40% of other chloride products
* High toxicity	Low toxicity Instability	* Strong corrosion	* Cause COD increasing	*Easy to transport *Easy to use
* Easy to leak out	in water	* Hydrochloric acid leak	Chlorine exceeded	*Low cost
* Cause secondary pollution		* Solubility is greatly influenced by temperature		*Strong oxidizing *Stripping effect to slime and other impurities

2. Effect comparison

Disinfectant	No	rmal water qualit	у	Material leakage		
	Dosage(g/m³)	Dosing intervals	Effect	Dosage(g/m ³)	Dosing intervals	Effect
Rosun ICW-01	8-15	2-3 days	99.99%	30	2 days	99.99%
Sodium dichloroisocyanurate	25	1 day	Qualified	50	1 day	Unqualified
TCCA	25	1 day	Qualified	100	1 day	Unqualifie
Kathon CG	100	2 weeks	Qualified	200	2 weeks	Unqualified
Quaternary ammonium salt	100	2 weeks	Qualified	250	2 weeks	Unqualifie

3. Dosage comparison

Circulating water plant with retained water 10000 tons/hour.

Disinfectant	Norm	al water qual	ity	Material leakage		
	Dosage(g/m²)	Dosing intervals	Annual consumption (kg)	Dosage(g/m³)	Dosing intervals	Annual consumption (kg)
Rosun ICW-01	10	2-3 days	18250	30	2 days	54750
Sodium dichloroisocyanurate	25	1 day	91250	100	1 day	365000
TCCA	25	1 day	91250	50	1 day	182500
Kathon CG	100	2 weeks	24000	200	2 weeks	48000
Quaternary ammonium salt	100	2 weeks	24000	250	2 weeks	60000

loss calculated by 0.15% according to summer.

M=E(evaporation loss)+D(windage loss)+B(blow-off water)+F(leakage loss)=360+60+30=450

E=e (11-12) (R-B) =0.15/100 x 8 x (30000-B) =380

D=0.2%R=0.2 / 100 × 30000=60

B=(E / (5-1) }-D=30

Test Reports

1. Toxicological Test

(3)Test result:

(1)Testing institution: SICHUAN CENTER FOR DISEASE CONTROL AND PREVENTION (2)Test category:Toxicological test

- a. The disinfectant powder LD50 value of the acute oral toxicity on rat is 3409.6mg/kg,and 95% trust range is 2742.3mg/kg-4239.4mg/kg. Based on chemical materials' toxicities grading, it belongs to low toxicity.
- b. After gavage feeding of the disinfectant to animals for 28 days, no obviously influence of the animal weight and weight organ ratio, the results of hematology regular test and the end biochemical infex test have no obviously influence compared with negative control croup. and histopathotopy examination results is neoative.







2. Microbiology Test

(1)Testing institution:SICHUAN CENTER FOR DISEASE CONTROL AND PREVENTION (2)Test category:Microbiology test

(3)Test result:

- a. The disinfectant average value of potassium monopersulfate content is 23.3%.
- b. Use 1% sodium thissultide + 1% thream-00 000/mostly, bit 12 7898 are neutralized, can effectively mentificate the distinction solicity (with operation should present a side) (with operation should be solicitied as solicitied in the solicitied should be solicitied as solicitied in solicitied as region and the distinction solicitied in solicities with region of spores of bacillus solicities were present and other solicities.
- c. The disinfectant solution which potassium monopersulfate content is 3.7g/L, affected for 5min, the average killing logarithm value for source of bacillus subtilis var niger > 5.00.
- d. The disinfectant solution which potassium monopersulfate content is 100mg/L, affected for 10min, the average killing logarithm value for staphylococcus aureus>5.00.
- The disinfectant solution which potassium monopersulfate content is 100mg/L, affected for 10min, the average killing logarithm value for escherichia coll>5.00.
- f. The disinfectant solution which potassium monopersulfate content is 70mg/L, affected for 5min, the average killing logarithm value for candida albicans>4.00.
- g. In about 60 m³ Laboratory, The disinfectant solution which potassium monopersulfate content is 4000mg/L, spray disinfection for 60min, the average killing rate for natural bacteria is 95.72%, meet qualified disinfection requirements.

3. Bactericidal capability test

(1)Testing institution:PetroChina Dushanzi Petrochemical Company (2)Test category:Bactericidal capability test (3)Test result:

Name	Concentration (mg/l)	Reaction time(h)	Viable bacteria (MPN/ml)	Control bacteria (MPN/ml)	Sterilizing rate (%)
Rosun disinfectant power ICW- 01 15 15 15 15	15	4	100		100
	15	8	30		100
	15	12	80	1.5 × 10 ⁵	100
	15	24	0		100
	15	48	150		100
	15	72	2.9 × 10 ³		99.98



4. Bactericidal capability test

(1)Testing institution:Yanshan petrochemical company (2)Test Category:Bactericidal capability test

(3)Test result:

Name	Reaction time(h)	Concentration (mg/l)	Sterilizing rate (%)	Concentration (mg/l)	Sterilizing rate (%)
Rosun disinfectant power ICW- 01	4	10	99.99	30	99.99
	24	10	99.99	30	99.99
	48	10	99.99	30	99.99
	72	10	99.99	30	99.99

Remark: original bacterial population: 2.2*107 MPN/ml

 This product has been written into Chinese book "Design Manual for Building Water Supply and Drainage 2nd Edition".



Application Examples





China Oil And Gas Guangan Co., LTD

Huaneng Thermal Power Plant In Changchun



Xinjiang Markor Chemical Industry Co., LTD



Sichuan Hebang Corporation Limited.

PetroChina Dushanzi Petrochemical Company

Chengdu Weifu Industrial Co., LTD
Sihuan Pharmaceutical Co., LTD

Yanshan Petrochemical Company

and so on.



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