

## SAFETY DATA SHEET

Issue Date 12-May-2025  
Revision Number 2.06

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product Name** Acridine Orange  
**Other means of identification**  
**Product Code(s)** 012-08942,014-08941

**Recommended use of the chemical and restrictions on use**

**Recommended Use** For research use only.  
**Uses advised against** Seek expert judgment when using for purposes other than those recommended.

**Details of the supplier of the safety data sheet**

<b>Manufacturer Address</b>	<b>Distributor</b>
FUJIFILM Wako Pure Chemical Corporation	FUJIFILM Irvine Scientific
1-2, Doshomachi 3-Chome,	E. Warner Avenue, Santa Ana, CA 92705-5505, U.S.A.: +1 949 261 7800
Chuo-ku Osaka 540-8605, Japan	Fax: +1 949 261 6522
Tel : +81-6-6203-3741	
Fax: +81-6-6201-5964	

### 2. HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture**

<b>Acute toxicity - Oral</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 1 B
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Germ cell mutagenicity</b>	Category 1A
<b>Specific target organ toxicity (single exposure)</b>	Category 1
<b>Category 1</b> respiratory system	
<b>Acute aquatic toxicity</b>	Category 1
<b>Chronic aquatic toxicity</b>	Category 1

**Pictograms****Signal word**

Danger

**Hazard statements**

H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H302 - Harmful if swallowed  
H340 - May cause genetic defects  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H370 - Causes damage to the following organs: respiratory system

**Precautionary statements-(Prevention)**

Obtain special instructions before use Do not handle until all safety precautions have been read and understood Use personal protective equipment as required Wash face, hands and any exposed skin thoroughly after handling Do not eat,

drink or smoke when using this product Do not breathe dust/fume/gas/mist/vapors/spray Avoid release to the environment

**Precautionary statements-(Response)**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth Do NOT induce vomiting Collect spillage

**Precautionary statements-(Storage)**

Store locked up

**Precautionary statements-(Disposal)**

Dispose of contents/container to an approved waste disposal plant

**Others**

**Other hazards** Not available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Single Substance or Mixture** Substance

**Formula** C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>·HCl·nZnCl<sub>2</sub>

Chemical Name	Molecular weight	CAS RN	Weight-%
N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride	C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> ·HCl = 301.81, ZnCl <sub>2</sub> =65.38	10127-02-3	=<100

**Impurities and/or Additives:** Not applicable

### 4. FIRST AID MEASURES

**First aid measures**

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Inhalation** Remove to fresh air.

**Ingestion** Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing media**

Water spray (fog). Carbon dioxide (CO<sub>2</sub>). Foam. Extinguishing powder. Sand.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Explosion data****Sensitivity to Mechanical Impact** none.**Sensitivity to Static Discharge** none.**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation, especially in confined areas.**Environmental precautions****Environmental precautions** See Section 12 for additional ecological information.**Methods and material for containment and cleaning up****Methods and material for containment and cleaning up** Prevent further leakage or spillage if safe to do so.**Methods for cleaning up** Pick up and transfer to properly labeled containers.**7. HANDLING AND STORAGE****Precautions for safe handling****Technical measures** Avoid contact with strong oxidizing agents.  
**Protective measures** Handle in accordance with good industrial hygiene and safety practice.**Conditions for safe storage, including any incompatibilities****Storage conditions** Store away from sunlight in well-ventilated place at room temperature (preferably cool). Keep container tightly closed.**Packaging materials** Glass.**Incompatible materials** Strong oxidizing agents.**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

**Exposure limits**

Chemical Name	ACGIH	OSHA PEL	NIOSH IDLH
N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride 10127-02-3	TWA , 1mg/m <sup>3</sup> ; STEL , 2mg/m <sup>3</sup>	N/A	N/A
Zinc chloride 7646-85-7	STEL: 2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> fume	TWA: 1 mg/m <sup>3</sup> fume (vacated) TWA: 1 mg/m <sup>3</sup> fume (vacated) STEL: 2 mg/m <sup>3</sup> fume	IDLH: 50 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> fume STEL: 2 mg/m <sup>3</sup> fume

**Personal protective equipment**

<b>Respiratory protection</b>	Dust mask ( JIS T 8151 )
<b>Hand protection</b>	chemical protective gloves ( JIS T 8116 )
<b>Eye protection</b>	protective eyeglasses or chemical safety goggles (JIS T 8147)
<b>Skin and body protection</b>	Long-sleeved work clothes

**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Form**

<b>Color</b>	reddish brown - dark brown
<b>Appearance</b>	powder or mass
<b>Odor</b>	no data available
<b>pH</b>	no data available
<b>Melting point/freezing point</b>	165 °C
<b>Boiling point, initial boiling point and boiling range</b>	no data available
<b>Flash point</b>	no data available
<b>Evaporation rate:</b>	no data available
<b>Flammability (solid, gas):</b>	no data available
<b>Upper/lower flammability or explosive limits</b>	
<b>Upper:</b>	no data available
<b>Lower:</b>	no data available
<b>Vapour pressure</b>	no data available
<b>Vapour density</b>	no data available
<b>Specific Gravity / Relative density</b>	no data available
<b>Solubilities</b>	water , Ethanol : soluble . acetone : practically insoluble,or insoluble .
<b>n-Octanol/water partition coefficient:(log Pow)</b>	no data available
<b>Auto-ignition temperature:</b>	no data available
<b>Decomposition temperature:</b>	no data available
<b>Viscosity (coefficient of viscosity)</b>	no data available
<b>Dynamic viscosity</b>	no data available
<b>Particle characteristics</b>	no data available

## 10. STABILITY AND REACTIVITY

**Stability**

<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Reactivity</b>	no data available
<b>Hazardous reactions</b>	None under normal processing
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ), Halides, Metal oxides

## 11. TOXICOLOGICAL INFORMATION

For reference, the following is information on zinc chloride(7646-85-7) contained in Complex.

**Acute toxicity**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc chloride	= 1100 mg/kg ( Rat )	173 mg/kg (Guinea pig)	=<1975 mg/m <sup>3</sup> ( Rat ) 10 min

Chemical Name	Acute toxicity -oral- source information	Acute toxicity -dermal- source information	Acute toxicity -inhalation gas- source information
Zinc chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

Chemical Name	Acute toxicity -inhalation vapor- source information	Acute toxicity -inhalation dust- source information	Acute toxicity -inhalation mist- source information
Zinc chloride	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.	Based on the NITE GHS classification results.

**Skin irritation/corrosion**

Chemical Name	Skin corrosion/irritation source information
Zinc chloride	Based on the NITE GHS classification results.

**Serious eye damage/ irritation**

Chemical Name	Serious eye damage/irritation source information
Zinc chloride	Based on the NITE GHS classification results.

**Respiratory or skin sensitization**

Chemical Name	Respiratory or Skin sensitization source information
Zinc chloride	Based on the NITE GHS classification results.

**Reproductive cell mutagenicity**

Chemical Name	germ cell mutagenicity source information
Zinc chloride	Based on the NITE GHS classification results.

**Carcinogenicity**

Chemical Name	Carcinogenicity source information
Zinc chloride	Based on the NITE GHS classification results.

**Reproductive toxicity**

Chemical Name	Reproductive toxicity source information
Zinc chloride	Based on the NITE GHS classification results.

**STOT-single exposure**

Chemical Name	STOT -single exposure- source information
Zinc chloride	Based on the NITE GHS classification results.

**STOT-repeated exposure**

Chemical Name	STOT -repeated exposure- source information
Zinc chloride	Based on the NITE GHS classification results.

**Aspiration hazard**

Chemical Name	Aspiration Hazard source information
Zinc chloride	Based on the NITE GHS classification results.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Zinc chloride 7646-85-7	EC50 : Nitzschia 0.065 mg Zn/L 72 h	N/A	N/A	EC50 : Daphnia magna 0.1 mg/L 48 h

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available

**Mobility**

no data available

**Mobility in soil**

No information available

**Other Data**

No information available

**13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Precautionary including method of disposing contaminated packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION****DOT****UN/ID No**

UN1759

**Proper shipping name:**

Corrosive solid, n.o.s. (N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride)

**UN classification**

8

**Subsidiary hazard class****Packing group**

II

**Marine pollutant**

Yes

**IATA****UN/ID No**

UN1759

**Proper shipping name:**

Corrosive solid, n.o.s. (N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride)

**UN classification**

8

**Subsidiary hazard class****Packing group**

II

**Environmentally Hazardous Substance**

Yes

**IMDG****UN/ID No**

UN1759

**Proper shipping name:**

Corrosive solid, n.o.s. (N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride)

**UN classification**

8

**Subsidiary hazard class****Packing group**

II

**Marine pollutant (Sea)**

Yes

**15. REGULATORY INFORMATION****US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS RN	Weight-%	SARA 313 - Threshold Values %
N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride -	10127-02-3	=<100	1.0

10127-02-3

**SARA 311/312 Hazard Categories**

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride 10127-02-3	N/A	X	N/A	N/A

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations****California Proposition 65**

This product does not contain any chemicals regulated by Proposition 65

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N,N,N',N'-tetramethylacridine-3,6-diamine monohydrochloride, compound with zinc dichloride 10127-02-3	X	N/A	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION**

Issue Date 12-May-2025

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**Revision Note**

No information available

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet