

Material Safety Data Sheet

1. Identification of the substance

Product Name: Tris(4,7-diphenyl-1,10-phenanthroline)ruthenium (ii) dichloride
CAS Number: 36309-88-3
Catalog number: A900992
Supplier: Amadis Chemical Co., Ltd.
Swatts Cosine.No.166.Xiangmao Road.310015.
Hangzhou,Zhejiang,P.R.China
Tel:0086-571-89925085 Fax:0086-571-89925065

2. Composition/information on ingredients.

Ingredient: Tris(4,7-diphenyl-1,10-phenanthroline)ruthenium (ii) dichloride
Formula: C72H48Cl2N6Ru
Molweight: 1169.17

3. Hazards identification

3.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, oral(Category 4) H302
Skin corrosion/irritation(Category 2) H315
Serious eye damage/eye irritation(Category 2A) H319
Specific target organ toxicity, single exposure(Category 3) H335
No Resource File

3.2 GHS Label elements, including precautionary statements



Pictogram

Signal word	Warning
Hazard statement(s)	
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
P261	Precautionary statement(s) Avoid breathing dust/fume/gas/mistapours/spray.
P264	Wash hands thoroughly after handling
P270	Do not eat, drink or smoke when using this product.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/faceprotection.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes.Remove contact lenses, if present

and easy to do. Continue rinsing.

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to in accordance with local

3.3 Associated risk phrases according to european directive 67/548/EEC



Hazard symbol(s)

R-phrases)

R22	Harmful if swallowed.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R38	Irritating to skin.

S-phrases(s)

S1	Keep locked up.
S20/21	When using do not eat, drink or smoke.
S23	Do not breathe gas/fumesapour/spray.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27	Take off immediately all contaminated clothing.
S28	After contact with skin, wash immediately with plenty of water.
S28B	After contact with skin, wash immediately with plenty of water and soap.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S44	If you feel unwell, seek medical advice (show the label where possible).
S46	If swallowed, seek medical advice immediately and show this container or label.
S51	Use only in well-ventilated areas.
S61	Avoid release to the environment. Refer to special

4. First aid measures

Skin contact: Immediately wash skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. If irritation persists, seek medical attention.

Eye contact: Immediately wash skin with copious amounts of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. If irritation persists, seek medical attention.

Inhalation: Remove to fresh air. In severe cases or if symptoms persist, seek medical attention.

Ingestion: Wash out mouth with copious amounts of water for at least 15 minutes. Seek medical attention.

5. Fire fighting measures

In the event of a fire involving this material, alone or in combination with other materials, use drypowder or carbon dioxide extinguishers. Protective clothing and self-contained breathing apparatus should be worn.

6. Accidental release measures

Personal precautions:Wear suitable personal protective equipmentwhich performs satisfactorily andmeets

local/state/national standards.

Respiratory precaution: Wear approved mask/respirator

Hand precaution: Wear suitable gloves/gauntlets

Skin protection: Wear suitable protective clothing

Eye protection: Wear suitable eye protection

Methods for cleaning up: Mix with sand or similar inert absorbentmaterial, sweep up and keep in a tightly closed container for disposal. See section 12.

Environmental precautions: Do not allow material to enter drains or water courses.

7. Handling and storage

Handling: This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data given on this sheet.

Storage: Store in cool, well ventilated area. Keep container tightly closed.

8. Exposure Controls / PPE

Engineering Controls: Use only in a chemical fume hood.

Personal protective equipment: Wear chemical-resistant gloves, safety goggles.

General hygiene measures: Wash thoroughly after handling. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Appearance : Red powder

Odor: Not available.

Boiling point: Not available
Melting point: Not available.
Flash point: Not available.
Density: Not available

10. Stability and reactivity

Reactivity: no data
Chemical stability: no data
Possibility of hazardous reactions: no data
Conditions to avoid: IStrong oxidizing agents
Incompatible materials: Hazardous decomposition products: Other decomposition products - no data available

11. Toxicological information

Acute Toxicity: No date
Skin corrosion/irritation: Irritant for skin and mucous membranes
Serious eye Damage/irritation: Irritant effect
Respiratory or skin sensitization: No date
Germ Cell mutagenicity: No date
Carcinogenicity: No date
Reproductive toxicity: No date
STOT-single exposure: No date
STOT-repeated exposure: No date
Aspiration hazard: No date

12. Ecological information

Toxicity: No data
Persistence and degradability: No data
Bio accumulative potential: No data
Mobility in soil: No data
Results of PBT and vPvB assessment: No data
Other adverse effects: No data

13. Disposal consideration

Arrange disposal as special waste, by licensed disposal company, in consultation with local waste disposal authority, in accordance with national and regional regulations.

14. Transportation information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. Regulatory information

Safety, health and environmental and national regulations:

Product is not subject to any additional regulations or provisions

Safety Assessment

No Chemical Safety Assessment

16. Other information

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this inform