

Material Safety Data Sheet (MSDS)

1. Product Name

Trivalent Chromium Iridescent Passivator (Rainbow Zinc Passivation)_TCP 973

2. Composition / Information on Ingredients

Ingredient	CAS No.	Weight Percentage
Chromium Nitrate	13548-38-4	28% - 33%
Citric Acid	5949-29-1	7% - 12%
Cobalt Sulfate	10124-43-3	5% - 10%
Acetic Acid	64-19-7	3% - 8%
Ammonium Bifluoride	1341-49-7	3% - 4%
Water	7732-18-5	40% - 45%

3. Hazards Identification

Hazard Classification: Does not meet hazard classification criteria

Fire & Explosion Hazard: Non-flammable and non-explosive; no special risks under normal use

Environmental Hazard: Harmful to the environment, especially water bodies

Health Hazards: Direct contact with eyes or skin without timely treatment may cause mild inflammation. Inhalation will cause soreness in nose, throat and bronchi and severely irritate mucous membranes.

4. First-Aid Measures

Eye Contact

Immediately flush eyes with running clean water for 15 minutes. Hold eyelids open with fingers to ensure full flushing of eyeballs and inner eyelid surfaces. If discomfort persists due to insufficient or delayed washing, seek immediate ophthalmic treatment at hospital.

Skin Contact

Wipe off excess liquid quickly with tissue or cloth, then thoroughly rinse with plenty of running water or skin cleanser. Remove contaminated clothing and footwear and rinse thoroughly. In case of heavy splashing, rinse skin before taking off clothes. Consult a doctor promptly if skin irritation occurs due to inadequate cleaning.

Ingestion

Rinse mouth with clean water at once. If possible, let the victim drink milk mixed with egg white, which forms a protective film on mucous membranes of throat, esophagus and stomach to alleviate chemical burns and penetration. Gastric lavage in hospital is required when necessary.

Massive Inhalation

Remove the victim to fresh air for rest, then transfer to hospital for further treatment.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Water, foam extinguisher, dry powder extinguisher, carbon dioxide extinguisher, sand, etc.

Unsuitable Extinguishing Media: None

Fire Response Instructions

Cut off all ignition sources immediately when surrounding fire occurs. Relocate containers to safe areas if feasible. Maintain a safe distance during fire suppression. Firefighters shall wear full protective clothing and respirators.

6. Accidental Release Measures

Isolate the spill site and bar access to irrelevant personnel. Identify the leakage source to stop further outflow and wear full protective equipment for cleanup.

- Minor spills: Wipe up with cloth, absorb residual liquid with soil then rinse with water.
- Major spills: Use sandbags to contain liquid spread, pump recovered liquid into corrosion-resistant containers. Rinse unrecoverable residues with water. Dilute residual solution and wastewater appropriately, neutralize with alkaline substances such as slaked lime or sodium hydroxide to the specified pH range before discharge. Direct discharge is forbidden to avoid environmental pollution.

7. Handling and Storage

Handling Precautions

Avoid splashing the liquid onto eyes and skin. Fully wash hands, face and other exposed parts after operation. Sufficient clean water shall be available on-site for emergency use; ensure adequate ventilation in the workplace.

Storage Precautions

Store containers in cool, shaded, well-ventilated areas away from direct sunlight and high-temperature zones. Separate from strong acids, strong alkalis, oxidants and reducing agents. Stack containers with a maximum of two layers to prevent packaging rupture. Keep lids tightly sealed and avoid long-term storage. Prepare ample clean water at storage areas for emergency response.

8. Exposure Controls / Personal Protection

Ventilation

Provide sufficient air exchange and good ventilation at workstations.

Auxiliary Facilities

Install washing stations and cleaning equipment near operation areas for post-work cleaning of hands and face.

Personal Protective Equipment

- Eye & Face Protection: Safety goggles and face shield as required (not mandatory for routine operation)
- Skin Protection: Proper rubber gloves, rubber boots
- Respiratory Protection: Gas mask

Other Requirements

Smoking and eating are prohibited in work areas. Shower and change work clothes after work shifts.

9. Physical and Chemical Properties

- Appearance: Dark green transparent liquid
- Odor: Only acetic acid odor
- Boiling Point: 112 °C
- Specific Gravity: 1.25 - 1.26
- Viscosity: No available data
- pH Value (8% aqueous solution): 1.9 - 2.2
- Solubility: Easily soluble in water
- Volatility: Only water content evaporates

10. Stability and Reactivity

- Flammability: Stable under normal use; non-flammable aqueous solution
- Flash Point: Non-flammable
- Ignition Point: Non-combustible
- Explosion Risk: Non-explosive
- Chemical Reactivity: Stable under normal operating conditions
- Hazardous Decomposition Products: None
- Incompatibility Hazards: None
- Additional Note: Corrodes metals

11. Toxicological Information

- Irritation: Mild irritant
- Corrosivity: Mild corrosive

12. Ecological Information

No test data available

13. Disposal Considerations

Disposal Method

Treat wastewater in compliance with hazardous waste standards before discharge. Dilute stock solution and concentrated waste liquid then neutralize with alkali, or entrust disposal to professional waste treatment agencies.

Disposal Notes

Dispose of waste properly; random dumping is forbidden to prevent environmental contamination.

14. Transport Information

- Domestic Hazard Classification: Oxidizing liquid, corrosive
- Domestic Hazard Code: 51527
- UN Number: 3098
- Packing Group: III
- Packaging Label: Corrosive Liquid

15. Regulatory Information

Applicable National Regulation: Catalogue of Hazardous Chemicals (2002 Version) issued by State Administration of Work Safety

16. Other Information

All information in this MSDS is provided by Somei company. Users shall refer to the above data in combination with actual operating conditions.