

Material Safety Data Sheet (MSDS)

1. Product Name

Trivalent Chromium Black Zinc Passivation _TCP 975

2. Composition / Information on Ingredients

Ingredient	CAS No.	Weight Percentage
Trivalent Chromium Compound	13437-91-1	10 - 12%
Cobalt Salt	14751-87-2	6%
Phosphorus Compound	51044-13-4	10%
Nickel Chloride	7718-54-9	20%

3. Hazards Identification

Hazard Classification: Does not meet hazard classification criteria

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

Environmental Hazard: Harmful to the environment, posing particular pollution risks to water bodies

Health Hazards: Direct contact with eyes or skin without timely treatment may cause mild inflammation. Inhalation causes soreness of the nose, throat and bronchi, and strongly irritates 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 the eyeballs and inner eyelids. If discomfort persists due to delayed or insufficient washing, seek immediate ophthalmic treatment at hospital.

Skin Contact

Wipe excess liquid off quickly with tissue or cloth, then rinse thoroughly with large amounts of running water or skin cleanser. Remove contaminated clothing and footwear and rinse thoroughly. In case of heavy contamination, rinse the skin before removing garments. Consult a doctor promptly if skin irritation occurs due to inadequate cleaning.

Ingestion

Rinse mouth with clean water right away. If possible, administer milk mixed with egg white to form a protective film on the mucous membranes of the throat, esophagus and stomach, mitigating chemical burns and permeation. Hospital gastric lavage is required when necessary.

Massive Inhalation

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

5. Fire-Fighting Measures

Suitable Extinguishing Media

Water, foam fire extinguishers, dry powder fire extinguishers, carbon dioxide fire extinguishers, sand, etc.

Unsuitable Extinguishing Media: None

Fire Response Instructions

Immediately cut off all ignition sources when surrounding areas catch fire. Relocate containers to a safe location if feasible. Maintain a safe distance during fire suppression operations. Firefighters must wear full protective clothing and respirators.

6. Accidental Release Measures

Isolate the spill site and restrict access to unauthorized personnel; identify the leakage source to stop further outflow and wear full protective gear 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 recoverable 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 prohibited to avoid environmental pollution.

7. Handling and Storage

Handling Precautions

Avoid splashing liquid onto eyes and skin. Fully wash hands, face and other exposed areas 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 or damage. 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 all 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 may be worn 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 finishing work.

9. Physical and Chemical Properties

- Appearance: Dark green liquid
- Odor: Slight ammonia odor
- Boiling Point: 108 °C
- Specific Gravity: 1.20 – 1.25
- Viscosity: No available data
- pH Value (10% aqueous solution): Less than 1
- 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 Stability: 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 treatment standards before discharge. Dilute stock solution and concentrated waste liquid and neutralize with alkali, or entrust disposal to professional hazardous waste treatment agencies.

Disposal Notes

Waste must be disposed of properly; random dumping is forbidden to prevent environmental contamination.

14. Transport Information

- Domestic Hazard Classification: Corrosive liquid
- Domestic Hazard Code: 51520
- UN Number: 3090
- 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 contained in this MSDS is provided by Somei company. Users shall reference the above data in combination with actual operating conditions.