

Material Safety Data Sheet (MSDS)

TCP-976A Trivalent Chromium Black Zinc Passivation Agent

1. Product and Company Identification

Product Name: TCP-976A Trivalent Chromium Black Zinc Passivation Agent

Company Name: Dongguan Shuomei Electronic Materials Technology Co., Ltd. Emergency

Phone: 0769-81030059

2. Composition / Information on Ingredients

Category	Content	CAS No.
Mixture	—	—
Chromium Nitrate	20%	13548-38-4
Cobalt Nitrate	7%	10141-05-6
Succinic Acid	3%	110-15-6
Water	70%	—

3. Hazard Identification

Hazard Classifications & Hazards

- (1) Physical hazard: Non-flammable and non-explosive; no special risks under normal use conditions.
- (2) Environmental hazard: Harmful to the environment, especially polluting water bodies.
- (3) Health hazard: Severe inflammation may occur if eye or skin contact is left untreated. Heavy inhalation causes soreness in nose, throat and bronchi with strong mucosal irritation.

4. First-Aid Measures

Eye Contact

Immediately flush eyes continuously with running clean water for 15 minutes. Keep eyes wide open and pull apart upper and lower eyelids to ensure water reaches all surfaces of eyeballs and conjunctiva. Seek medical treatment from an ophthalmologist promptly if discomfort persists due to incomplete or delayed flushing.

Skin Contact

Wipe off residual substance quickly with paper towels or cloth, then rinse thoroughly with plenty of running water or skin cleanser. Immediately remove contaminated clothes and footwear and rinse them with abundant running water. For heavy contamination, flush skin with plenty of water before removing garments. Seek medical care timely if irritation occurs from insufficient or delayed cleaning.

Ingestion

Rinse mouth with clean water right away. If possible, let the casualty drink milk mixed with egg white, which forms a protective film on the mucous membranes of throat, esophagus and stomach to relieve chemical burns and penetration. Gastric lavage shall be performed at hospital if necessary.

Inhalation of Large Amounts

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

5. Fire-Fighting Measures

Suitable Extinguishing Media

Water spray, foam extinguisher, dry powder extinguisher, carbon dioxide extinguisher, sand and earth.

Unsuitable Extinguishing Media

None

Fire-Fighting Instructions

Cut off all combustion sources immediately when fire breaks out nearby. Transfer containers to a safe area if feasible. Maintain a safe distance during fire suppression; firefighters shall wear full protective clothing and gas masks.

6. Accidental Release Measures

General Emergency Procedures

Block off the spill area and prohibit entry of irrelevant personnel. Identify the root cause of leakage to stop further outflow; wear complete protective equipment before handling spills.

- Minor spillage: Wipe up with cloth or absorb with soil, then rinse residues with water.
- Major spillage: Build dikes with sandbags to prevent spread; pump leaked liquid into corrosion-resistant containers for recovery. Flush unrecoverable residues with water.

Wastewater Disposal for Spill Residues

Dilute residual solution or flushing wastewater adequately first, then neutralize with alkaline substances such as slaked lime or sodium hydroxide to the specified pH range. Discharge is only permitted after reaching discharge standards; direct discharge without treatment is forbidden to avoid environmental pollution.

7. Handling and Storage

Handling Precautions

Avoid splashing onto eyes and skin. Wash hands, face and exposed body parts thoroughly after use. Sufficient clean water shall be available at the workplace for emergency rinsing. Ensure adequate ventilation in operating areas.

Storage Precautions

Store containers in cool, dark, well-ventilated areas away from direct sunlight; do not store under high-temperature conditions. Separate from strong acids, strong alkalis, oxidants and reducing agents; do not store together. Do not stack excessively; maximum two layers are recommended to prevent package rupture or damage. Keep containers tightly sealed and avoid long-term storage. Reserve sufficient clean water at storage sites for emergency use.

8. Exposure Controls / Personal Protection

Ventilation

Maintain full mechanical ventilation and good air circulation at workstations.

Auxiliary Facilities

Wash stations and cleaning equipment shall be installed near operating areas for convenient washing of hands and face after work.

Personal Protective Equipment (PPE)

- (1) Eye & face protection: Safety goggles and face shields are optional for high-risk operations; not required for routine use.
- (2) Skin protection: Wear appropriate rubber gloves and rubber boots.
- (3) Respiratory protection: Wear gas masks.
- (4) Other Workplace Rules

Smoking, eating and drinking are prohibited at work sites. Shower and change into clean clothes after work shifts.

9. Physical and Chemical Properties

Appearance: Purple liquid Odor: Odorless Boiling Point: 108 °C Specific Gravity: 1.09 - 1.11 Viscosity: No available data pH Value (10% aqueous solution): < 1 Solubility: Miscible with water easily Volatility: Only water component volatilizes

10. Stability and Reactivity

Flammability: Stable under normal service conditions (non-flammable aqueous solution)
Flash Point: Non-flammable, no flash point Ignition Point: Non-combustible Explosion Risk: Non-explosive substance Chemical Stability: Chemically stable under normal usage Hazardous Decomposition Products: None Incompatible Hazards: None Additional Property: Corrosive to metals

11. Toxicological Information

Irritation: Mild irritant Corrosivity: Mild corrosive

12. Ecological Information

No available data

13. Disposal Considerations

Disposal Methods

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

Disposal Notes

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

14. Transport Information

Domestic Hazard Classification: Corrosive liquid Hazard Code: 51520 UN Number: 3090
Packing Group: III Packing Label: Corrosive liquid mark

15. Regulatory Information

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

16. Other Information

All data provided in this MSDS is supplied by Dongguan Shuomei Electronic Materials Technology Co., Ltd. Users shall refer to this document in accordance with actual application conditions.