

MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

1. Chemical Product and Company Identification

Product Name: STERLING Rapid Silver Stain Reagent B
Product Number: EC-720B

Chemical Names/

Description:

Mixture of electrolyte and paraformaldehyde

Manufacturer

National Diagnostics
 305 Patton Drive
 Atlanta, GA 30336

Telephone Numbers

(800) 526-3867
 (404) 699-2121

Emergency Numbers

Chemtrec

(800) 424-9300 (U.S. & Canada)
01-703-527-3887 (outside U.S. & Canada)

2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Paraformaldehyde	4	30525-89-4		0.3 ppm
Proprietary Electrolyte	96			none established

3. Hazards Identification

Appearance and Odor

White, odorless, crystalline powder

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

Paraformaldehyde

DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. SENSITIZER.

Proprietary Electrolyte

DANGER! MAY CAUSE EYE BURNS. HARMFUL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:

Paraformaldehyde

SUSPECT CANCER HAZARD. EMITS FORMALDEHYDE WHICH MAY CAUSE CANCER.

Risk of cancer depends upon duration and level of exposure.

Proprietary Electrolyte

PROLONGED OR REPEATED EXPOSURE MAY CAUSE SENSITIZATION.

Potential Health Effects

Inhalation

Paraformaldehyde:

Highly irritating to upper respiratory tract.

Proprietary Electrolyte:

Inhalation may cause irritation to the respiratory tract. Excessive contact is known to cause damage to the nasal septum.

Ingestion

Paraformaldehyde:

Causes severe irritation and inflammation of mouth, throat, and stomach.

Proprietary Electrolyte:

This material is only slightly toxic, but large doses may be corrosive to the gastro-intestinal tract.

Skin

Paraformaldehyde:

May be irritating to the skin.

Proprietary Electrolyte:

May be irritating to the skin.

Eyes

Paraformaldehyde:

Exposure to high vapor concentrations or contact with dust causes tearing and severe irritation.

Contact with dust causes severe burns.

Proprietary Electrolyte:

Contact may be corrosive to eyes and cause conjunctival edema and corneal destruction. Risk of serious injury increases if eyes are kept tightly closed.

Signs and Symptoms of Overexposure

Inhalation

Paraformaldehyde:

May cause inflammation of lining of nose, throat, and lungs with bronchopneumonia and edema possible from extremely irritating exposure.

Proprietary Electrolyte:

Coughing and difficulty breathing.

Ingestion

Paraformaldehyde:

Severe stomach pain followed by possible loss of consciousness.

Proprietary Electrolyte:

Large doses may produce severe abdominal pain, vomiting, diarrhea, collapse, and death.

Skin

Paraformaldehyde:

Drying, cracking, and scaling.

Proprietary Electrolyte:

Blistering and redness.

Eyes

Paraformaldehyde:

Tearing and severe irritation.

Proprietary Electrolyte:

Redness, pain, tearing.

Carcinogenicity

Paraformaldehyde:

Paraformaldehyde slowly releases formaldehyde. Formaldehyde cancer status: NTP Anticipated Carcinogen; IARC Category 2A; EPA/IRIS Group B1; OSHA Cancer Suspect Agent.

Proprietary Electrolyte:

Not listed by NTP or IARC as a known or anticipated carcinogen.

Mutagenicity

Paraformaldehyde:

No information found.

Proprietary Electrolyte:

No information found.

Reproductive Toxicity

Paraformaldehyde:

No information found.

Proprietary Electrolyte:

No information found.

Teratogenic Effects

Paraformaldehyde:

No information found.

Proprietary Electrolyte:

No information found.

Routes of Entry

Paraformaldehyde:

Ingestion, inhalation.

Proprietary Electrolyte:

Ingestion, inhalation, eye contact.

Target Organ Statement

Paraformaldehyde:

No information found.

Proprietary Electrolyte:

No information found.

4. First Aid Measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point	N.A.	Flammable Limits	N.A.
Flash Point Method	N.A.	Autoignition temperature	N.A.

Extinguishing media

Use media appropriate to the primary cause of fire.

Protective Equipment

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Hazardous Combustion Products

May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.

Unusual Fire and Explosion Hazards

May explode when applied to red hot aluminum.

NFPA Codes: Health 3 Flammability 1 Reactivity 0

6. Accidental Release Measures

Steps to be taken in case material is released or spilled

Use a vacuum cleaner equipped with charcoal exhaust scrubber or hose from mechanical exhaust ventilation system to vacuum spills. If this is not possible, sweep up spills and place in a covered waste disposal container. Flush area with water.

Waste Disposal Method

Disposal must be made in accordance with applicable federal, state, and local regulations.

Personal Precautions

Wear appropriate protective equipment as specified in section 8.

7. Handling and Storage

Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

Storage

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

Storage Temperature

Room Temperature

Disposal

Observe all national, state, and local regulations regarding disposal.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits

Component: Paraformaldehyde

ACGIH Threshold Limit Value (TLV): 0.3 ppm

OSHA Permissible Exposure Limit (PEL):

Component: Proprietary Electrolyte

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit

(PEL):

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Other Control Measures

N.A.

9. Physical Properties

Boiling point N.A.

Evaporation Rate No information found

Melting point 120-170C

Solubility in water Soluble

Vapor pressure (mmHg) 1.4 @ 25 C

pH N.A.

Vapor density (Air = 1) 1.03

Specific gravity (H₂O = 1) 1.3

% volatile by volume No information found

10. Stability and Reactivity

Stability

Stable under ordinary conditions of use and storage. Releases formaldehyde gas slowly as it sublimates at room temperature.

Conditions to Avoid

Heat, flame, dusting and incompatibles.

Hazardous Decomposition Products

May form carbon dioxide, carbon monoxide, and formaldehyde when heated to decomposition.

Hazardous Polymerization

Will not occur

Incompatibles

Paraformaldehyde:

Caustics, strong alkalis, isocyanates, anhydrides, oxides, inorganic acids.

Proprietary Electrolyte:

Fluorine, aluminum, phosphorus pentoxide, sulfuric acid, zinc, lithium, moisture, calcium hydroxide, and 2,4,6 trinitrotoluene. Reacts violently with acids to form carbon dioxide.

11. Toxicological Information

Product LD50 Values

STERLING Rapid Silver Stain Reagent B	Oral Rat LD50 (mg/kg):	20000
STERLING Rapid Silver Stain Reagent B	Dermal Rabbit LD50 (mg/kg):	6750

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Paraformaldehyde	No	No	None
Proprietary Electrolyte	No	No	None

12. Ecological Information

Paraformaldehyde

No information found.

Proprietary Electrolyte

No information found.

13. Disposal Considerations

Observe all national, state, and local regulations regarding disposal.

14. Transport Information

D.O.T.

Proper Shipping Name: Corrosive Liquid, Acidic, inorganic, N.O.S.

Hazard Class: 8

UN Number: 3264

Packing Group: III

I.A.T.A.

Proper Shipping Name: Corrosive Liquid, Acidic, inorganic, N.O.S.

Hazard Class: 8

UN Number: 3264

Packing Group: III

I.M.O.

Proper Shipping Name: Corrosive Liquid, Acidic, inorganic, N.O.S.

Hazard Class: 8

UN Number: 3264

Packing Group: III

15. Regulatory Information

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Paraformaldehyde	Yes	No	No	Yes	Yes
Proprietary Electrolyte	No	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

16. Other Information

NFPA Codes: Health 3 Flammability 1 Reactivity 0

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