

MATERIAL SAFETY DATA SHEET

Product Name: Fixer Concentrate for
Manual X-Ray Systems

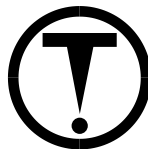
Product Code Number: 60705 60039

1. PRODUCT INFORMATION

Product Use: X-Ray Fixer Concentrate

WHMIS Classification: D2(B)

Supplier: maxill inc.
80 Elm Street
St. Thomas, Ontario. N5R 6C8
Tel.(800) 268-8633
FAX: (519) 631-3388



2. PREPARATION INFORMATION

Prepared On: 18/09/03
Prepared By: Dr. Nathan Schiff

Supersedes: 12/10/01
Change: A

Emergency Phone Number: (519) 631-7370
CANUTEC: (613) 996-6666

NAV-Not Available

NAP-Not Applicable

DG=Dangerous Goods

The information here is presented in good faith, but no warranty, expressed or implied is given.

3. HAZARDOUS INGREDIENTS

INGREDIENT:	CAS#	%Range	LD50 Oral	LD50 Dermal	LC50 INHALATION
Ammonium Thiosulfate	7783-18-8	15-40	mg/kg 2890 Rat	mg/kg NAV NAV	mg/m ³ /4H NAV NAV
Sodium Sulfite	7757-83-7	1-5	2610 Rat	NAV NAV	NAV NAV
Acetic Acid	64-19-7	1-5	3310 Rat	1060 Rabbit	5620 ppm/1 hr NAV
Sodium Tetraborate	1303-96-4	1-5	>2000 Rat	NAV NAV	NAV NAV

4. PHYSICAL DATA

Physical State: Liquid
Coeff. Of Water/Oil Distribution: NAV
Boiling Point: >100°C
Odor: Ammoniacal
Odor Threshold: NAV
Appearance: Clear, Pale Yellow Liquid

Specific Gravity: 1.26
Freezing Point: < -0°C
Evaporation Rate: 1 (Water=1)
pH: 4.5

Vapor Density: 0.6 (air=1)
Vapor Pressure: >24 mm Hg at 25°C

5. FIRE AND EXPLOSION DATA

Is This WHMIS Class B? No
Upper Explosion Limit: NAV
Lower Explosion Limit: NAV
Extinguishment Media:
Conditions To Avoid:

Flash Point: None
Auto Ignition Temperature: NAV

Sensitivity to Static Charge: Stable
Sensitivity to Impact: Stable

Product is not combustible. Use dry chemical, foam, water, CO₂ for surrounding fire. Avoid contact with strong acids, strong alkalis, nitrites, nitrates and oxidizing agents.

Hazardous Combustion Products:

May emit toxic fumes carbon oxides, sulfur dioxide, ammonia, hydrogen sulfide and sodium sulfide (which is flammable and a strong eye and skin irritant), if exposed to fire. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Sulfur dioxide is toxic and potentially deadly.

6. TOXICOLOGICAL PROPERTIES

Route of Entry: Eye and Skin Contact, Inhalation, Ingestion
Effects of Acute Exposure:
Eyes: Corrosive, causes severe irritation and or burns to the eyes. May cause severe corneal injury and permanent impairment of vision, if prompt first-aid and medical treatment are not obtained.
Skin: Brief contact will cause itching with mild to moderate local redness and possibly swelling. Prolonged contact may result in severe redness and swelling, and cause an allergic reaction.
Inhalation: Mists, aerosols or vapors are irritating to the respiratory tract, causing stinging sensations in the nose and throat. May cause severe allergic reactions in some asthmatics and sulfite sensitive individuals. May cause breathing difficulty and headache.
Ingestion: May cause marked irritation to the mouth, throat, esophagus and stomach. Sodium sulfite has been demonstrated to have mutagenic effects in humans and mammals.

LD50 Oral: 4187 mg/kg (Rat, calc.)
Irritancy of Product:
Exposure Limit:

LD50 Dermal: NAV
Lc50 Inhalation: NAV
Corrosive to eyes and skin. May cause severe allergic reactions in some asthmatics. Recommended ceiling limit for sodium sulfite is 5 mg/m³. For SO₂ the TWAEV is 2 ppm and the STEV is 5 ppm. The exposure limit for ammonium thiosulfate has not been established. The ACGIH TLV- TWA for acetic acid is 10 ppm.

Carcinogenicity: Not considered to be a carcinogen
Sensitization of Product: May cause skin sensitization, dermatitis and an allergic reaction in certain susceptible individuals, especially asthmatics.

Teratogenicity: No
Synergistic Materials: NAV
Effects of Chronic Exposure: Potentially sensitizing

Reproductive Toxicity: No
Mutagenicity: Yes

7. FIRST AID MEASURES

Eye Contact:	Rinse immediately with water, remove contact lenses if any, and continue rinsing with water for at least 15 minutes while holding eyelids open. Consult a physician immediately.
Ingestion:	Do not induce vomiting. Give large amounts of milk, egg whites, gelatin solution or large amounts of water. Never give anything by mouth if person is unconscious. Call a physician immediately.
Inhalation:	Remove to fresh air. If breathing is difficult, consult a physician
Skin Contact:	Remove contaminated clothing and shoes. Wash skin well with soap and water. Wash clothing before wearing again. Consult a physician.

8. PREVENTIVE MEASURES

Engineering Controls:	General ventilation
Handling Procedures:	Avoid ingestion and eye or skin contact. Avoid inhalation of vapors
Storage Requirements:	Store in original container in a cool, dry place, away from incompatible materials such as strong acids, strong alkaline material and oxidizers. Keep container closed when not in use.
Leak and Spill Procedure:	Collect with absorbent material such as paper, vermiculite or floor absorbent and dispose in accordance with applicable regulations.
Waste Disposal:	Dispose in accordance with local/provincial and federal regulations.

PROTECTIVE EQUIPMENT FOR BULK HANDLING

Respiratory:	Not required under normal conditions of handling.	Use an NIOSH approved respirator if mists or aerosols are generated, or if TLVs and PELs exceed the regulated limit for sodium sulfite or acetic acid.
Eyes:	Safety goggles	
Gloves:	Impermeable gloves (rubber, nitrile, butyl or polyethylene)	
Footwear:	Safety boots	
Other:	Eye wash fountains are recommended	

PROTECTIVE EQUIPMENT FOR END-USERS

Respiratory:	Not required under normal conditions of use.	Use an NIOSH approved respirator if mists or aerosols are generated, or if TLVs and PELs exceed the regulated limit for sodium sulfite or acetic acid.
Eyes:	Safety glasses are recommended	
Gloves:	Impermeable gloves	

9. REACTIVITY DATA

Conditions of Instability: Stable	Incompatible Materials: Avoid contact with oxidizing agents, strong acids or alkaline material, nitrites, nitrates, alcohols,
Conditions of Reactivity: Heat, oxidizers	Hazardous Decomposition Products: May liberate toxic fumes of carbon monoxide, carbon dioxide, ammonia, sulfur dioxide which is corrosive and toxic, sodium sulfide residue which is flammable. May also liberate oxides of nitrogen if exposed to fire.

10. SPECIAL SHIPPING INFORMATION

<u>DG</u>	<u>Proper Shipping Name</u>	<u>TDG Hazard Class</u>	<u>UN Number</u>	<u>Packing Group</u>
No	NAP	NAP	NAP	NAP

maxill
SPECIALTY CHEMICALS
INFECTION CONTROL