MATERIAL SAFETY DATA SHEET

SECTION 1 - General Information

PRODUCT NAME
T2 Automatic X-Ray Fixers Concentrate, Working Solution

PRODUCT USE
Photographic fixer

HIMS SCALE

CATALOG #
3303, 4010F, 4010FP, 4300F

SUPPLIER
White Mountain Imaging

ADDRESS
P.O. Box 216 Salisbury  NH  03268

PHONE NO.
603-648-2124

EMERGENCY TEL #
CHEMTREC 800-424-9300

SECTION 2 - Product and Hazardous Ingredients Information

HAZARDOUS INGREDIENTS                  CAS NUMBER  W/W %  Permissible Exposure Limit  LD50  LC50
Water                                      7732-18-5   90-95  not listed                   42.6 gm/kg  not available
Ammonium thiosulfate                      7783-18-8   8-12   not listed                   2890 mg/kg  not available
Sodium sulfite                            7757-83-7   <2     not listed                   2825 mg/kg  not available
Aluminum sulfate                          10043-01-3  <2     ACGIH TWA 2mg/m³  6201 mg/kg  not available

SECTION 3 - Hazards Identification

EFFECTS OF ACUTE EXPOSURE TO PRODUCT
Harmful if swallowed. may cause burning or irritation of eyes and mucous membranes. may cause mild skin irritation and /or allergic skin reaction. Prolonged inhalation of vapors may be irritating and may cause headaches.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT
None known

SECTION 4 - First Aid Measures

SKIN CONTACT
Wash exposed skin thoroughly with soap and water. If irritation persists seek medical advice.

EYE CONTACT
Flush eyes with water for 15 minutes. Seek medical advice if symptoms persist.

INGESTION
DO NOT induce vomiting. Seek medical advice giving details of amount swallowed and toxicity.

INHALATION
If inhaled, remove to fresh air.

SECTION 5 - Fire Fighting Measures

FLAMMABILITY
YES  NO  X  IF YES, UNDER WHAT CONDITIONS

MEANS OF EXTINCTION
As needed to extinguish adjacent fire source.

FLASHPOINT (°C) AND METHOD
Not appropriate

LOWER FLAMMABLE LIMIT (% BY VOLUME)
Not appropriate

AUTOIGNITION TEMPERATURE (°C)
Not appropriate

HAZARDOUS COMBUSTION PRODUCTS
See "Hazardous Decomposition Products".

EXPLOSION DATA
Not susceptible

SENSITIVITY TO STATIC DISCHARGE
Not susceptible

SECTION 6 - Accidental Release

Flush to sewer with plenty of water, if permitted. If not, soak up with dry absorbent material. Consult with governmental regulatory agencies for appropriate disposal of this material. Wear appropriate protective equipment.

SECTION 7 - Handling and Storage

Read and follow the label, material safety data sheet, and instructions before using. Avoid any contact with skin and eyes. Keep container tightly closed. Avoid incompatible substances. Wash thoroughly after handling this product.
MATERIAL SAFETY DATA SHEET

SECTION 1 - General Information

PRODUCT NAME
T2 Automatic X-Ray Fixers Concentrate, Part 2

PRODUCT USE
Photographic fixer

HMIS SCALE
1 0 0

SUPPLIER
White Mountain Imaging

ADDRESS
P.O. Box 216 Salisbury NH 03268

PHONE NO.
603-648-2124

EMERGENCY TEL #
CHEMTREC 800-424-9300

SECTION 2 - Product and Hazardous Ingredients Information

HAZARDOUS INGREDIENTS
Water
Aluminum sulfate

CAS NUMBER
7732-18-5
10043-01-3

W/W %
70-80
20-30

Permissible Exposure Limit
not listed
ACGIH TWA 2mg/m3

LD50
42.6 gm/kg
6201 mg/kg

LC50
not available
not available

SECTION 3 - Hazards Identification

EFFECTS OF ACUTE EXPOSURE TO PRODUCT
Harmful if swallowed, may cause burning or redness of eyes and mucous membranes, may cause mild skin irritation and/or allergic skin reaction. Prolonged inhalation of vapors may be irritating and may cause headaches.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT
None known

SECTION 4 - First Aid Measures

SKIN CONTACT
Wash exposed skin thoroughly with soap and water. If irritation persists seek medical advice.

EYE CONTACT
Flush eyes with water for 15 minutes. Seek medical advice if symptoms persist.

INGESTION
DO NOT induce vomiting. Seek medical advice giving details of amount swallowed and toxicity.

INHALATION
If inhaled, remove to fresh air.

SECTION 5 - Fire Fighting Measures

FLAMMABILITY
Not appropriate

MEANS OF EXTINCTION
As needed to extinguish adjacent fire source. At elevated temperatures (>1400°F), sulfur oxides may form.

FLASHPOINT (°C) AND METHOD
Not appropriate

FLAMMABILITY DATA
Not appropriate

HAZARDOUS COMBUSTION PRODUCTS
See "Hazardous Decomposition Products".

SECTION 6 - Accidental Release

Flush to sewer with plenty of water, if permitted. If not, soak up with dry absorbent material. Consult with governmental regulatory agencies for appropriate disposal of this material. Wear appropriate protective equipment.

SECTION 7 - Handling and Storage

Read and follow the label, material safety data sheet, and instructions before using. Avoid any contact with skin and eyes. Keep container tightly closed. Avoid incompatible substances. Wash thoroughly after handling this product.
SECTION 8 - Exposure Controls

VENTILATION Good general ventilation.
SKIN Latex or nitrile EYE Splash goggles RESPIRATORY Not normally required
OTHER Eye wash station

SECTION 9 - Physical and Chemical Properties

PHYSICAL STATE Liquid
ODOR AND APPEARANCE Clear, colorless to light yellow
ODOR THRESHOLD Not available
VAPOUR PRESSURE (mmHg) < 17 mm Hg
VAPOUR DENSITY (Air = 1) 0.6 mm Hg
EVAPORATION RATE (Water = 1) Not available
BOILING POINT (°C) ≥ 212°F
FREEZING POINT(°C) ≤ 32°F
pH 3.50
SPECIFIC GRAVITY 1.330
SOLUBILITY IN WATER Complete
COEFF WATER OIL Not available
PERCENT VOLATILE (BY VOLUME) 70%

SECTION 10 - Stability and Reactivity Data

CHEMICAL STABILITY YES X NO
INCOMPATIBILITY WITH OTHER SUBSTANCES IF YES, WHICH ONES? Precipitates alkalis
REACTIVITY, AND UNDER WHAT CONDITIONS Stable under ambient pressure and temperature.
HAZARDOUS DECOMPOSITION PRODUCTS None

SECTION 11 - Toxicological Information

EXPOSURE LIMITS Ammonium sulfate 2 mg/M3
IRRITANCY OF PRODUCT None known
SENSITIZATION TO PRODUCT None known
CARCINOGENICITY Not listed by IARC, OSHA or ACGIH.
TERATOGENICITY Not known
REPRODUCTIVE TOXICITY Not known
MUTAGENICITY Not known
SYNERGISTIC PRODUCTS Not known

SECTION 12 - Ecological Information

No data available

SECTION 13 - Disposal Considerations

Dispose of this product in accordance with federal, state and/or local laws.

SECTION 14 - Transportation Information

Aluminum sulfate, Class 9, UN 3082, PG III for quantities greater than 5000 lb. Not applicable for quantities less than 5000 lb.

SECTION 15 - Regulatory Information

No data available

SECTION 16 - Other Information

The information contained in this MSDS is furnished without warranty of any kind. The user should consider this data a supplement to other data gathered and must make an independent determination of suitability from this and other sources to assure proper use and disposal of this material and the health and safety of employees and customers.
EFFECTS OF ACUTE EXPOSURE TO PRODUCT

Harmful if swallowed. may cause burning or redness of eyes and mucous membranes. may cause mild skin irritation and/or allergic skin reaction. Prolonged inhalation of vapors may be irritating and may cause headaches.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

None known

SKIN CONTACT

Wash exposed skin thoroughly with soap and water. If irritation persists seek medical advice.

EYE CONTACT

Flush eyes with water for 15 minutes. Seek medical advice if symptoms persist.

INGESTION

DO NOT induce vomiting. Seek medical attention immediately.

INHALATION

If inhaled, remove to fresh air.

SECTION 2 - Product and Hazardous Ingredients Information

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>CAS NUMBER</th>
<th>W/W %</th>
<th>Permissible Exposure Limit</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>40-50</td>
<td>not listed</td>
<td>42.6 g/kg</td>
<td>not available</td>
</tr>
<tr>
<td>Ammonium thiosulfate</td>
<td>7783-18-8</td>
<td>40-50</td>
<td>not listed</td>
<td>2890 mg/kg</td>
<td>not available</td>
</tr>
<tr>
<td>Sodium sulfite</td>
<td>7757-83-7</td>
<td>5-10</td>
<td>not listed</td>
<td>2825 mg/kg</td>
<td>not available</td>
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<tr>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>5-10</td>
<td>OSHA TWA 10 ppm</td>
<td>3310 mg/kg</td>
<td>5620 -1h</td>
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</table>

SECTION 3 - Hazards Identification

Harmful if swallowed. may cause burning or redness of eyes and mucous membranes. may cause mild skin irritation and/or allergic skin reaction. Prolonged inhalation of vapors may be irritating and may cause headaches.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT

None known

SECTION 4 - First Aid Measures

SKIN CONTACT

Wash exposed skin thoroughly with soap and water. If irritation persists seek medical advice.

EYE CONTACT

Flush eyes with water for 15 minutes. Seek medical advice if symptoms persist.

INGESTION

DO NOT induce vomiting. Seek medical attention immediately.

INHALATION

If inhaled, remove to fresh air.

SECTION 5 - Fire Fighting Measures

FLAMMABILITY YES X NO If YES, UNDER WHAT CONDITIONS

MEANS OF EXTINCTION

As needed to extinguish adjacent fire source.

FLASHPOINT (°C) AND METHOD

Not appropriate

UPPER FLAMMABLE LIMIT (% BY VOLUME)

Not appropriate

LOWER FLAMMABLE LIMIT (% BY VOLUME)

Not appropriate

AUTOIGNITION TEMPERATURE (°C)

Not appropriate

HAZARDOUS COMBUSTION PRODUCTS

See "Hazardous Decomposition Products".

EXPLOSION DATA

Not susceptible

SENSITIVITY TO IMPACT

Not susceptible

SENSITIVITY TO STATIC DISCHARGE

Not susceptible

SECTION 6 - Accidental Release

Flush to sewer with plenty of water, if permitted. If not, soak up with dry absorbent material. Consult with governmental regulatory agencies for appropriate disposal of this material. Wear appropriate protective equipment.

SECTION 7 - Handling and Storage

Read and follow the label, material safety data sheet, and instructions before using. Avoid any contact with skin and eyes. Keep container tightly closed. Avoid incompatible substances. Wash thoroughly after handling this product.
T2 Automatic X-Ray Fixers Concentrate, Part 1

### SECTION 8 - Exposure Controls

**VENTILATION**
Good general ventilation.

**SKIN**
Latex or nitrile

**EYE**
Splash goggles

**RESPIRATORY**
Not normally required

**OTHER**
Eye wash station

### SECTION 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>PHYSICAL STATE</th>
<th>ODOR AND APPEARANCE</th>
<th>ODOR THRESHOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td></td>
<td>Not available</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>VAPOUR PRESSURE (mm Hg)</th>
<th>VAPOUR DENSITY (Air = 1)</th>
<th>EVAPORATION RATE (Water = 1)</th>
<th>BOILING POINT (°C)</th>
<th>FREEZING POINT(°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 17 mm Hg</td>
<td>0.6 mm Hg</td>
<td>Not available</td>
<td>≥ 212°F</td>
<td>≤ 32°F</td>
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</table>

<table>
<thead>
<tr>
<th>pH</th>
<th>SPECIFIC GRAVITY</th>
<th>SOLUBILITY IN WATER (20°C)</th>
<th>COEFF WATER OIL</th>
<th>PERCENT VAPORABLE (BY VOLUME)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.20</td>
<td>1.320</td>
<td>Complete</td>
<td>Not available</td>
<td>50%</td>
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### SECTION 10 - Stability and Reactivity Data

<table>
<thead>
<tr>
<th>CHEMICAL STABILITY</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF NO, UNDER WHAT CONDITIONS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOMPATIBILITY WITH OTHER SUBSTANCES</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF YES, WHICH ONES?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REACTIVITY, AND UNDER WHAT CONDITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable under ambient pressure and temperature.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HAZARDOUS DECOMPOSITION PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
</tr>
</tbody>
</table>

### SECTION 11 - Toxicological Information

<table>
<thead>
<tr>
<th>EXPOSURE LIMITS</th>
<th>IRRITANCY OF PRODUCT</th>
<th>SENSITIZATION TO PRODUCT</th>
<th>CARCINOGENICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid: PEL 2.0 mg/m3</td>
<td>None known</td>
<td>None known</td>
<td>Not listed by IARC, OSHA or ACGIH.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>TERATOGENICITY</th>
<th>REPRODUCTIVE TOXICITY</th>
<th>MUTAGENICITY</th>
<th>SYNERGISTIC PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not known</td>
<td>Not known</td>
<td>Not known</td>
<td>Not known</td>
</tr>
</tbody>
</table>

### SECTION 12 - Ecological Information

No data available

### SECTION 13 - Disposal Considerations

Dispose of this product in accordance with federal, state and/or local laws.

### SECTION 14 - Transportation Information

Not regulated for transportation.

### SECTION 15 - Regulatory Information

SARA: Reportable quantity (RQ) for Ammonium Thiosulfate 5000 lb, Acetic acid 500 lb
SARA Section 304, CERCLA Hazardous components - Ammonium Thiosulfate
SARA Section 302,304,313 Hazardous components (None)
Not a controlled product under Canadian WHMIS regulations.

### SECTION 16 - Other Information

The information contained in this MSDS is furnished without warranty of any kind. The user should consider this data a supplement to other data gathered and must make an independent determination of suitability from this and other sources to assure proper use and disposal of this material and the health and safety of employees and customers.
SECTION 8 - Exposure Controls

VENTILATION  Good general ventilation.

SKIN  Latex or nitrile

EYE  Splash goggles

RESPIRATORY  Not normally required

OTHER  Eye wash station

SECTION 9 - Physical and Chemical Properties

PHYSICAL STATE  Liquid

ODOR AND APPEARANCE  Clear, colorless liquid with slight ammonia odor

VAPOUR PRESSURE (mm Hg)  <17 mm Hg

VAPOUR DENSITY (Air = 1)  0.6 mm Hg

EVAPORATION RATE (Water = 1)  Not available

BOILING POINT (°C)  ≥ 212°F

FREEZING POINT (°C)  ≤ 32°F

SPECIFIC GRAVITY  1.085

SOLUBILITY IN WATER (20°C)  Complete

COEFFICIENT WATER OIL  Not available

PERCENT VOLATILE (BY VOLUME)  50%

SECTION 10 - Stability and Reactivity Data

CHEMICAL STABILITY  YES  X  NO  

INCOMPATIBILITY WITH OTHER SUBSTANCES  X  NO  IF YES, WHICH ONES?

REACTIVITY, AND UNDER WHAT CONDITIONS  Stable under ambient pressure and temperature.

HAZARDOUS DECOMPOSITION PRODUCTS  Ammonia

SECTION 11 - Toxicological Information

EXPOSURE LIMITS  None known

IRRITANCY OF PRODUCT  None known

SENSITIZATION TO PRODUCT  None known

CARCINOGENICITY  Not listed by IARC, OSHA or ACGIH.

TERATOGENICITY  Not known

REPRODUCTIVE TOXICITY  Not known

MUTAGENICITY  Not known

SYNERGISTIC PRODUCTS  Not known

SECTION 12 - Ecological Information

No data available

SECTION 13 - Disposal Considerations

Dispose of this product in accordance with federal, state and/or local laws.

SECTION 14 - Transportation Information

Not regulated for transportation.

SECTION 15 - Regulatory Information

SARA: Reportable quantity (RQ) for Ammonium Thiosulfate 5000 lb
SARA Section 304, CERCLA Hazardous components - Ammonium Thiosulfate
SARA Section 302, 304, 313 Hazardous components (None)
Not a controlled product under Canadian WHMIS regulations.

SECTION 16 - Other Information

The information contained in this MSDS is furnished without warranty of any kind. The user should consider this data a supplement to other data gathered and must make an independent determination of suitability from this and other sources to assure proper use and disposal of this material and the health and safety of employees and customers.