

MATERIAL SAFETY DATA SHEET

SECTION 1 - General Information

PRODUCT NAME **FR MFII Universal Fixer Replenisher Concentrate Part A**

PRODUCT USE Photographic fixer

HMIS SCALE HEALTH **1** FLAMMABILITY **0** REACTIVITY **0** PPE **C**

SUPPLIER FR Chemical

CATALOG #
44-602, 44-640, 42-798-300

ADDRESS 524 S. Columbus Ave Mt. Vernon NY 10550

PHONE NO. **914-667-2447**

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	40-50	not listed	Not	Not available
Ammonium thiosulfate	7783-18-8	40-50	not listed	2890 mg/kg	not available
Sodium sulfite	7757-83-7	5-10	not listed	2825 mg/kg	not available
Acetic acid	64-19-7	5-10	OSHA TWA 10 ppm	3310 mg/kg	5620 -1h

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 attention immediately.

INHALATION

If inhaled, remove to fresh air.

SECTION 5 - Fire Fighting Measures

FLAMMABILITY YES 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 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.

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 Pale 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 5.20	SPECIFIC GRAVITY 1.320	SOLUBILITY IN WATER (20°C) Complete	COEFF WATER OIL Not available	PERCENT VOLATILE (BY VOLUME) 85%

SECTION 10 - Stability and Reactivity DataCHEMICAL STABILITY YES NO IF NO, UNDER WHAT CONDITIONSINCOMPATIBILITY WITH OTHER SUBSTANCES IF YES, WHICH ONES?
YES NO Strong reducing agents, strong bases

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

HAZARDOUS DECOMPOSITION PRODUCTS Ammonia

SECTION 11 - Toxicological Information

EXPOSURE LIMITS Acetic acid: PEL 2.0 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

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.

MATERIAL SAFETY DATA SHEET

SECTION 1 - General Information

PRODUCT NAME **FR MFII Universal Fixer Replenisher Concentrate Part B**

PRODUCT USE Photographic fixer HMIS SCALE HEALTH **1** FLAMMABILITY **0** REACTIVITY **0** PPE **C**

SUPPLIER FR Chemical

CATALOG #
44-602, 44-640, 42-798-300

ADDRESS 524 S. Columbus Ave Mt. Vernon NY 10550

PHONE NO. **914-667-2447**

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	70-80	not listed	Not	Not available
Aluminum sulfate	10043-01-3	20-30	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 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 NO IF YES, UNDER WHAT CONDITIONS

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

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 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.

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 (20°C) Complete	COEFF WATER OIL Not available	PERCENT VOLATILE (BY VOLUME) Not available

SECTION 10 - Stability and Reactivity DataCHEMICAL STABILITY YES NO IF NO, UNDER WHAT CONDITIONSINCOMPATIBILITY WITH OTHER SUBSTANCES IF YES, WHICH ONES?
YES NO 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

SARA: Reportable quantity (RQ) for Aluminum sulfate i 5000 lb

SECTION 16 - Other Information

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MATERIAL SAFETY DATA SHEET

SECTION 1 - General Information

PRODUCT NAME **FR MFII Universal Fixer Replenisher, Working Solution (RTU)**

PRODUCT USE Photographic fixer

HMIS SCALE HEALTH **1** FLAMMABILITY **0** REACTIVITY **0** PPE **C**

SUPPLIER FR Chemical

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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	Not	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 attention immediately.

INHALATION

If inhaled, remove to fresh air.

SECTION 5 - Fire Fighting Measures

FLAMMABILITY YES 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 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.

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			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 4.20	SPECIFIC GRAVITY 1.085	SOLUBILITY IN WATER (20°C) Complete	COEFF WATER OIL Not available	PERCENT VOLATILE (BY VOLUME) Not available

SECTION 10 - Stability and Reactivity DataCHEMICAL STABILITY YES NO IF NO, UNDER WHAT CONDITIONS

INCOMPATIBILITY WITH OTHER SUBSTANCES IF YES, WHICH ONES?

YES NO Strong reducing agents, strong bases.

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 Skin: Irritant	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.