Carestream

MATERIAL SAFETY DATA SHEET

Issuing date 2012-10-02 **Revision Date** 2012-10-02 **Version** 2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: GBX Fixer and Replenisher

Product code: 1901875

Supplier Carestream Health Canada, 8800 Dufferin Street, Suite 201, Vaughan, Ontario, L4K 0C5

For Emergency Health Information call: 800-424-9300

For other information contact: 1-866-792-5011

Product Use: Photographic chemical.

2. HAZARDS IDENTIFICATION

Warning!

Emergency Overview

May be harmful if swallowed

Physical state liquid **Odor** Ammonia **Color** colorless

HMIS **Health Hazard** - 1* **Flammability** - 1 **Physical Hazard** - 0

Potential Health Effects

Eyes May cause irritation.

Skin Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract. May be harmful if inhaled.

Ingestion May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chronic Effects

Chronic toxicity Prolonged exposure may cause chronic effects.

Aggravated Medical Conditions None known.

Environmental hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Ammonium thiosulfate	7783-18-8	30-40
Sodium bisulfite	7631-90-5	1-5

Ammonium bisulfite	10192-30-0	1-5
Ammonium acetate	631-61-8	1-5
Sodium borate	1330-43-4	1-2
Aluminum sulfate	10043-01-3	1-5
Acetic acid	64-19-7	0.1-1.0

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	40-50
Potassium acetate	127-08-2	1-5

4. FIRST AID MEASURES

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Eye contact Rinse immediately with plenty of water and seek medical advice.

Skin contact Rinse immediately with plenty of water and seek medical advice.

Inhalation Move to fresh air.

Ingestion Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: Does not flash

Suitable Extinguishing Media Use CO2, dry chemical, or foam.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Hazardous Combustion Products Carbon oxides, Nitrogen oxides (NOx), Sulfur oxides.

Specific hazards arising from the chemical
Dried product residue can act as a reducing agent. Reacts violently with oxidizing materials. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA **Health Hazard** - 1 **Flammability** - 1 **Stability** - 0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions For personal protection see section 8. Ensure adequate ventilation.

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Other information See Section 12 for additional information.

7. HANDLING AND STORAGE

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Sodium bisulfite 7631-90-5	TWA: 5 mg/m³			
Sodium borate 1330-43-4	STEL 6 mg/m³ TWA: 2 mg/m³			
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m³	

Occupational Exposure Controls

Engineering Measures Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits.

Personal Protective Equipment

General Information These recommendations apply to the product as supplied.

Respiratory protection Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Eye/Face Protection Safety glasses with side-shields. If splashes are likely to occur, wear:: Goggles.

Skin and body protection Wear suitable protective clothing.

Hand Protection Impervious gloves.

Other Protective Equipment Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid
ph 4.9
Flash point: Does not flash
Boiling point/boiling range > 100 °C

Odor Ammonia
Color colorless
Autoignition temperature: No information available

Vapor Pressure 24 mbar @ 20 °C
Vapor density 0.6
Density No information available
Water Solubility completely soluble
Melting point/range: No information available
Specific Gravity 1.30

Bulk Density: No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Incompatible products Acids. Strong bases. Oxidizing agents. Halogenated compounds. Contact with strong acids liberates sulfur dioxide.

Conditions to Avoid Do not freeze.

Hazardous Decomposition Products Ammonia. Chloramine. Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Eyes May cause irritation.

Inhalation Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract. May be harmful if inhaled.

Ingestion May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90,000 mg/kg (Rat)		
Ammonium thiosulfate	> 2000 mg/kg (Rat)		
Sodium bisulfite	1420 mg/kg (Rat)		
Potassium acetate	3250 mg/kg (Rat)		
Sodium borate	2403 mg/kg (Rat)	2000 mg/kg (Rabbit)	
Aluminum sulfate	> 5000 mg/kg (Rat)		
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h

Chemical Name	Other applicable information
Ammonium thiosulfate	No skin irritation No eye irritation
Sodium bisulfite	No skin irritation No eye irritation

Sodium borate	Based on repeated-dose ingestion studies in animals, may cause adverse reproductive and developmental effects. However, the doses administered were many times those to which humans would normally be exposed.
Aluminum sulfate	Severe eye irritation No skin irritation Cell transformation assay: negative Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Acetic acid	Severe eye irritation Severe skin irritation Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occured, and the ventilation rate in the room.

Subchronic toxicity No information available

Chronic toxicity Prolonged exposure may cause chronic effects.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Reproductive toxicity Contains a known or suspected reproductive toxin. However, based on available data the product should not be classified for reproductive effects.

Target Organ Effects Eyes, Skin, Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects The environmental impact of this product has not been fully investigated.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sodium bisulfite		LC50= 240 mg/L Gambusia affinis 96 h	EC50 = 119 mg/L 48 h (Daphnia magna)
Potassium acetate		LC50= 6800 mg/L Oncorhynchus mykiss 96 h	EC50 = 7170 mg/L 24 h (Daphnia magna)
Sodium borate	158 mg/L EC50 96 h (Desmodesmus subspicatus) 2.6 - 21.8 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	LC50= 340 mg/L Limanda limanda 96 h	LC50 1085 - 1402 mg/L 48 h (Daphnia magna)
Aluminum sulfate		LC50= 100 mg/L Carassius auratus 96 h LC50= 37 mg/L Gambusia affinis 96 h	EC50 = 136 mg/L 15 min (Daphnia magna)

Acetic acid		LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h	EC50 = 47 mg/L 24 h (Daphnia magna) EC50 = 65 mg/L 48 h (Daphnia magna)

Persistence and degradability Expected to be readily biodegradable

Bioaccumulation: - No information available

Mobility - No information available

Chemical Name	log Pow
Acetic acid	-0.31

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

DOT Not regulated

TDG Not regulated

ICAO/IATA Not regulated

IMDG/IMO Not regulated

For transportation information, go to: http://ship.carestreamhealth.com.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Non-controlled

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies

KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

16. OTHER INFORMATION

Disclaimer for Label The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture.

Warning!

- Contains:

Hazardous Components

Chemical Name	CAS-No	Weight %
Ammonium thiosulfate	7783-18-8	30-40
Sodium bisulfite	7631-90-5	1-5
Ammonium bisulfite	10192-30-0	1-5
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Sodium borate	1330-43-4	1-2
Aluminum sulfate	10043-01-3	1-5
Acetic acid	64-19-7	0.1-1.0

May be harmful if swallowed.

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

If swallowed, call a poison control center or doctor immediately. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.
Additional information is given in the Material Safety Data Sheet.