

SAFETY DATA SHEET

Revision Date 11/09/2018

Revision Number 2.11

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

Product name: GBX Fixer and Replenisher

Product Code(s) 5158613FIX

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, NY, USA 14608

Emergency telephone number
 CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
 1-800-424-9300 (NORTH AMERICA)

For other information contact: 800-328-2910


Recommended Use Restricted to professional users. Photographic chemical.

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2A
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Label elements

Emergency Overview		
Signal word	Warning	
Hazard statements Causes serious eye irritation		
		
Appearance Colorless Liquid	Physical state Liquid	Odor Ammonia

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Hazards not otherwise classified (HNOC)

- None identified

Other hazards which do not result in classification

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	Trade Secret
Water 7732-18-5	7732-18-5	45-55	*
Ammonium thiosulfate 7783-18-8	7783-18-8	30-40	*
Sodium sulfite 7757-83-7	7757-83-7	1-5	*
Sodium borate 1330-43-4	1330-43-4	1-<3	*
Aluminum sulfate 10043-01-3	10043-01-3	1-<3	*

*The exact percentages (concentrations) have been withheld as trade secrets.

4. FIRST AID MEASURES**First Aid Measures**

General advice	Show this safety data sheet to the doctor in attendance.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention immediately if irritation persists.
Skin contact	Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. If not breathing, give artificial respiration. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects, both acute and delayed**Main Symptoms** None known.**Indication of any immediate medical attention and special treatment needed****Notes to physician** Treat symptomatically.**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

None.

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).

Hazardous combustion products

Carbon oxides, Nitrogen oxides (NOx), Sulfur oxides.

Explosion data**Sensitivity to Mechanical Impact** None.**Sensitivity to Static Discharge** None.**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.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection see section 8.

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Incompatible products Acids. Strong bases. Oxidizing agents. Halogenated compounds. Sodium hypochlorite.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Chemical name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³		-	

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Long sleeved clothing. Protective gloves. Skin contact should be prevented through use of suitable protective clothing, gloves, and footwear, selected with regard of use conditions and exposure potential.

Respiratory protection None required under normal usage. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES**PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	Liquid	Odor	Ammonia
Appearance	Colorless Liquid	Odor threshold	No information available
Color	colorless		
Property	Values	Remarks • Method	
pH	4.9	No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range	> 100 °C / 212 °F	No information available.	
Flash point	Does not flash	No information available	
Evaporation rate			
Flammability (solid, gas)	no data available		
Upper flammability limit:	Unknown		
Lower flammability limit:	Not flammable		
Vapor pressure	24 mbar @ 20 °C		
Vapor density	0.6		
Specific Gravity	1.3	No information available	
Water solubility	completely soluble		
Solubility(ies)		No information available.	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Kinematic viscosity		No information available	
Dynamic viscosity		No information available	
Oxidizing Properties	No information available		
Explosive properties	No information available		
Other information			
Softening point		No information available	
Molecular weight		No information available	
Liquid Density		No information available	
Bulk density		No information available	

10. STABILITY AND REACTIVITY

Reactivity

None under normal use conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas).
Contact with bases liberates flammable material and ammonia.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Do not freeze.

Incompatible Materials

Acids. Strong bases. Oxidizing agents. Halogenated compounds. Sodium hypochlorite.

Hazardous decomposition products

Ammonia. Chloramine. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation.
Skin contact	May cause skin irritation and/or dermatitis.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Toxicology data for the components

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	90,000 mg/kg (Rat)	-	-
Ammonium thiosulfate 7783-18-8	> 2000 mg/kg (Rat)	-	-
Sodium sulfite 7757-83-7	5680 mg/kg (Rat) Oral LD50 Rat 5680 mg/kg (Source: OECD_SIDS)	-	22 mg/L (Rat) 1 h Inhalation LC50 Rat >22 mg/L 1 h (Source: IUCLID)
Sodium borate 1330-43-4	2660 mg/kg (Rat) Oral LD50 Rat 2660 mg/kg (Source: JAPAN_GHS)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	2 mg/m ³ (Rat) 4 h Inhalation LC50 Rat >2 mg/m ³ 4 h (Source: HSDB)
Aluminum sulfate 10043-01-3	> 5000 mg/kg (Rat)	-	-

Component Information**Information on toxicological effects**

Symptoms Irritant. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing,

tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Severe eye irritation or burning.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Expected to be a low hazard for recommended handling. May cause skin irritation and/or dermatitis.
Serious eye damage/eye irritation	Causes serious eye irritation.
Irritation	Severe eye irritant.
Corrosivity	Risk of serious damage to eyes.
Sensitization	May cause sensitization by inhalation.
Mutagenic effects	No information available.
Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.
Reproductive toxicity	Contains a known or suspected reproductive toxin. Based on available data, the classification criteria are not met.
STOT - single exposure	The substance or mixture is not classified as specific target organ toxicant, single exposure
STOT - repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeat exposure
Target Organ Effects	Eyes, Skin, Respiratory system.
Aspiration Hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	6413 mg/kg
ATEmix (dermal)	114286 mg/kg
ATEmix (inhalation-dust/mist)	0.2 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated. Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium sulfite 7757-83-7		220 - 460: 96 h Leuciscus idus mg/L LC50 static		330: 24 h Psammechinus miliaris mg/L LC50
Sodium borate 1330-43-4	158: 96 h Desmodesmus subspicatus mg/L EC50 2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	340: 96 h Limanda limanda mg/L LC50		1085 - 1402: 48 h Daphnia magna mg/L LC50
Aluminum sulfate 10043-01-3		100: 96 h Carassius auratus mg/L LC50 37: 96 h Gambusia affinis mg/L LC50 static		136: 15 min Daphnia magna mg/L EC50

Persistence and degradability Expected to be readily biodegradable

Bioaccumulation:

Chemical name	log Pow
Sodium sulfite 7757-83-7	-4

Mobility in soil No information available

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods	Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers. 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.

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

For transportation information, go to: <http://ship.carestream.com>

15. REGULATORY INFORMATION

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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	SARA 313 - Threshold Values %
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Ammonium thiosulfate - 7783-18-8	1.0
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SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ammonium acetate	5000 lb			X
Ammonium bisulfite	5000 lb			X
Aluminum sulfate	5000 lb			X
Acetic acid	5000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Product RQ
Aluminum sulfate	5000 lb		

TSCA**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium thiosulfate	X		X		
Sodium borate	X		X		
Aluminum sulfate	X	X	X		

International Regulations**Mexico - Grade** Moderate risk, Grade 2

Chemical name	Carcinogen Status	Exposure Limits
Sodium borate		Mexico: TWA 1 mg/m ³

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 1	Instability 0
HMIS	Health Hazard 2	Flammability 1	Physical Hazard 0

Issuing Date	02/06/2014
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Revision Note	Update to OSHA GHS SDS format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the

date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet