

MATERIAL SAFETY DATA SHEET

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Version 4

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

Product name: GBX Twin Pack, Fixer
KODAX GBX Twin Pack, Fixer

Product code: 1901859FIX

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: Restricted to professional users. 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 - 0
Hazard**

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 %
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Ammonium thiosulfate	7783-18-8	30-40
Sodium bisulfite	7631-90-5	1-5
Ammonium bisulfite	10192-30-0	1-5
Sodium borate	1330-43-4	1-2
Aluminum sulfate	10043-01-3	1-5

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	40-50
Potassium acetate	127-08-2	1-5
Ammonium acetate	631-61-8	1-5

4. FIRST AID MEASURES

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Eye contact	In case of contact, immediately flush eyes with plenty of water. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention immediately if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Inhalation	Move to fresh air. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point:	Does not flash
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	None.
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.
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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/m ³			
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³			
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m ³	

Occupational Exposure Controls

Engineering Measures	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.
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
Vapor Pressure 24 mbar @ 20 °C

Odor Ammonia
Color colorless
Autoignition temperature: No information available

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.**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.

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) Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)		
Sodium borate	2403 mg/kg (Rat) Oral LD50 Rat 2403 mg/kg (Source: IUCLID)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	

Aluminum sulfate	> 5000 mg/kg (Rat)	
Chemical Name		Other applicable information
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 occurred, 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)

Persistence and degradability Expected to be readily biodegradable

Bioaccumulation: - No information available

Mobility - No information available

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

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.

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/NDL	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/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

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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
Sodium borate	1330-43-4	1-2
Aluminum sulfate	10043-01-3	1-5

May be harmful if swallowed.

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

Additional information is given in the Material Safety Data Sheet.

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text