SAFETY DATA SHEETS

This SDS packet was issued with item:

073135704

N/A



MATERIAL SAFETY DATA SHEET

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Issuing date 2013-09-16 Revision Date 2013-09-16 Version 4

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

Product name: READYMATIC Fixer and Replenisher KODAK READYMATIC DENTAL Fixer and Replenisher

Product code: 1028869FIX

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608

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

For other information contact: 800-328-2910

Product Use: Restricted to professional users. Photographic chemical.

2. HAZARDS IDENTIFICATION

Warning!

Emergency Overview

May be harmful if swallowed May cause skin and eye irritation

Physical state liquid Odor Ammonia Color light yellow

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

Potential Health Effects

Eyes May cause irritation.

Skin May cause irritation. 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 Preexisting eye disorders. Skin disorders. Respiratory disorders.

Environmental hazard See Section 12 for additional Ecological Information.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %			
Ammonium thiosulfate	7783-18-8	10-15			
Acetic acid	64-19-7	1-5			
Ammonium sulfite	10196-04-0	0.1-1			
Sodium sulfite	7757-83-7	0.1-1			
Sodium borate	1330-43-4	0.1-1			
lon-Hazardous					
Chemical Name	CAS-No	Weight %			
Water	7732-18-5	80-90			

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, also under the eyelids, for at least 15 minutes. Get

medical attention immediately if symptoms occur.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water.

Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: > 93.600 °C

Suitable Extinguishing Media Carbon dioxide (CO2). Dry chemical. 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 - 3 Flammability - 1 Stability - 0

ACCIDENTAL RELEASE MEASURES

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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.

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
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m ³	
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³			
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³		TWA: 2 mg/m ³	

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 protectionNone required under normal conditions. If exposure limits are exceeded or irritation is

experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory

protection must be provided in accordance with current local regulations.

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. Please observe the instructions regarding permeability and

breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the

danger of cuts, abrasion.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state liquid

ph 4.4

Flash point: > 93.600 °C

Boiling point/boiling range > 100 °C

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 1.09

Bulk Density: No information available

Odor Ammonia Color light yellow

Autoignition temperature: No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

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

Conditions to Avoid Do not freeze. Extreme pH's.

Hazardous Decomposition Products Ammonia. Chloramine. Sulfur oxides. Nitrogen oxides (NOx).

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing. Contact with strong acids liberates sulfur dioxide. Contact

with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with strong

bases liberates ammonia.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin May cause irritation. 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	Water 90,000 mg/kg (Rat)			
Ammonium thiosulfate	> 2000 mg/kg (Rat)			
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat)4 h	

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Ammonium sulfite	2500 mg/kg (Rat)				
Sodium sulfite	820 mg/kg (Rat)		22 mg/L (Rat) 1 h 5.5 mg/L (Rat) 4 h		
Sodium borate	2403 mg/kg (Rat)	2000 mg/kg (Rabbit)			
Chemical Name	-	Other applicable information	Other applicable information		
Acetic acid		Other applicable information Severe eye irritation Severe skin irritation Acute overexposure to extremely high airborne concentrations respiratory irritants has been associated with development of ar 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 airbor 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.			
Sodium sulfite		No skin irritation Mild 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.			

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, Teeth.

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	
Acetic acid	Acetic acid		EC50 = 47 mg/L 24 h (Daphnia magna) EC50 = 65 mg/L 48 h (Daphnia magna)	
Sodium sulfite		LC50 220 - 460 mg/L Leuciscus idus 96 h	LC50 = 330 mg/L 24 h (Psammechinus miliaris)	
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)	

Persistence and degradability Expected to be readily biodegradable

Bioaccumulation: - No information available

Mobility - No information available

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Chemical Name	log Pow
Acetic acid	-0.31
Sodium sulfite	-4

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

International Inventories

Complies **TSCA** Complies DSL/NDSL Complies **EINECS/ELINCS** Complies **ENCS** Complies **IECSC** Complies **KECL PICCS** Complies **AICS** Complies Complies **NZIoC**

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

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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 %	
Ammonium thiosulfate - 7783-18-8	1.0	
Ammonium sulfite - 10196-04-0	1.0	

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
Acetic acid	5000 lb			Х
Ammonium sulfite	5000 lb			Х

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

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetic acid - 64-19-7		Group II		

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 CER 302):

Environmental Response Compe				
Chemical Name Hazardous Substances RQs		Extremely Hazardous Substances RQs	SARA Product RQ	
Acetic acid	5000 lb			
Ammonium sulfite	5000 lb			

TSCA

This product does not contain any chemicals regulated under TSCA Section 4, Section 5(a), Section 8(a) or Section 8(d).

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		
Acetic acid	X	Х	Х		X
Ammonium sulfite	X	X	Х		
Sodium borate	Х		Х		

International Regulations

Mexico - Grade Moderate risk, Grade 2

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Chemical Name	Carcinogen Status	Exposure Limits
Acetic acid		Mexico: TWA 10 ppm
		Mexico: TWA 25 mg/m ³
		Mexico: STEL 15 ppm
		Mexico: STEL 37 mg/m ³
Sodium borate	_	Mexico: TWA 1 mg/m ³

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	10-15
Acetic acid	64-19-7	1-5
Ammonium sulfite	10196-04-0	0.1-1
Sodium sulfite	7757-83-7	0.1-1
Sodium borate	1330-43-4	0.1-1

May be harmful if swallowed. May cause skin and eye irritation.

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. Drink 1 or 2 glasses of water. 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



MATERIAL SAFETY DATA SHEET

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

Product name: READYMATIC Developer and Replenisher KODAK READYMATIC DENTAL Developer and Replenisher

Product code: 1028869DEV

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608

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

For other information contact: 800-328-2910

Product Use: Photographic chemical.

2. HAZARDS IDENTIFICATION

Warning!

Emergency Overview

Causes eye irritation.

May be harmful if swallowed

Physical state liquid Odor Odorless Color colorless

HMIS Health Hazard - 2* Flammability - 1 Physical - 0
Hazard

Potential Health Effects

Eyes Irritating to eyes.

Skin May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and

cause irritation.

Inhalation No hazard from product as supplied. May cause irritation of respiratory tract. Contact with

strong acids liberates sulfur dioxide.

Ingestion May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea,

vomiting and diarrhea. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chronic Effects

Chronic toxicity Effects expected to be similar to those seen acutely.

Aggravated Medical Conditions Preexisting eye disorders. Skin disorders. Respiratory disorders.

Environmental hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Hazardous

Chemical Name	CAS-No	Weight %
Sodium sulfite	7757-83-7	1-5
Hydroquinone	123-31-9	<2.5
Sodium borate	1330-43-4	0.1-1
Non-Hazardous	<u> </u>	

Chemical Name	CAS-No	Weight %
Water	7732-18-5	80-90
Sodium bicarbonate	144-55-8	1-5

4. FIRST AID MEASURES

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR

EMERGENCY MEDICAL CARE.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention immediately if symptoms occur.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if

symptoms occur.

Ingestion If swallowed, call a poison control center or doctor immediately. Do not induce vomiting

without medical advice. Clean mouth with water and afterwards drink plenty of water. Never

give anything by mouth to an unconscious person.

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

Hazardous Combustion Products

Hazardous decomposition products due to incomplete

combustion.

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 - 2 Flammability - 1 Stability - 0

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.

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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.

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.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Hydroquinone 123-31-9	TWA: 1 mg/m ³		TWA: 2 mg/m ³	
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³			
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³			

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.

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

Odor Odorless

Physical state liquid

ph 10.1

Flash point: Does not flash

Boiling point/boiling range > 100 °C

Vapor Pressure 24 mbar @ 20 °C

Vapor density 0.6

Color colorless
Autoignition temperature: No information available

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Density No information available **Water Solubility** completely soluble

Melting point/range: No information available

Specific Gravity 1.08

Bulk Density: No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Incompatible products Strong acids. Oxidizing agents.

Conditions to Avoid Do not freeze.

Hazardous Decomposition Products Carbon oxides, Sulfur oxides.

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions Contact with strong acids liberates sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry

skin and cause irritation.

Eyes Irritating to eyes.

Inhalation No hazard from product as supplied. May cause irritation of respiratory tract.

Contact with strong acids liberates sulfur dioxide.

Ingestion May be harmful if swallowed. Ingestion may cause gastrointestinal irritation,

nausea, vomiting and diarrhea. 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)		
Sodium sulfite	820 mg/kg (Rat)		22 mg/L (Rat) 1 h 5.5 mg/L (Rat) 4 h
Hydroquinone	320 mg/kg (Rat)	> 4800 mg/kg (Rat)	
Sodium bicarbonate	4220 mg/kg (Rat)		
Sodium borate	2403 mg/kg (Rat)	2000 mg/kg (Rabbit)	
Chemical Name	·	Other applicable information	1
Sodium sulfite	_	No skin irritation	_
		Mild eye irritation	

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Hydroquinone	Moderate eye irritation
	Causes sensitization on guinea-pigs.
	Mild skin irritation
	Can be absorbed through skin.
	(1.1 ug/cm2/hr)
	Negative in bacterial mutagenicity assays. Evidence for
	mutagenicity (chromosome breakage, sister-chromatid
	exchanges) in in vivo and in vitro animal studies.
	Hydroquinone has been classified as a Category 3 mutagen and
	carcinogen by the European Union based on testing of rats and
	mice given hydroquinone by stomach tube or at high dietary
	levels. The International Agency for Research on Cancer (IARC)
	under ranking for cancer potential has classified hydroquinone in
	Group 3, i.e. "not classifiable" as a carcinogen. In the European
	Union a Category 3 mutagen attracts the risk phrase R68
	"Possible risk of irreversible effects" at concentrations above 1%,
	and a Category 3 carcinogen attracts the risk phrase R40 "Limited
	evidence of a carcinogenic effect" at concentrations above 1%.
	Exposure to products containing such substances should be
	controlled to below established control limits and special care
	should be taken with pregnant or breast-feeding women to ensure
	appropriate controls are in place to control the risk.
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.

Subchronic toxicity No information available

Chronic toxicity Effects expected to be similar to those seen acutely.

Carcinogenicity Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydroquinone	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

SensitizationThis mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. A very similar mixture was negative in dermal sensitization studies with and

without prior sensitization to hydroquinone. Based on the results of these studies, this

mixture is not expected to present a dermal sensitization hazard to humans.

mutagenic effects No specific testing was done on this product. Mutagenic testing of the hazardous ingredient

in this product has resulted in some positive mutagenic results.

Reproductive toxicity Contains ingredients that are suspected reproductive hazards. However, based on available

data the product should not be classified for reproductive effects.

Target Organ Effects Skin, Eyes, Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Component Information

Component information			
Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other
		-	aquatic invertebrates

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Sodium sulfite		LC50 220 - 460 mg/L Leuciscus idus 96 h	LC50 = 330 mg/L 24 h (Psammechinus miliaris)
Hydroquinone	13.5 mg/L EC50 120 h (Desmodesmus subspicatus) 0.335 mg/L EC50 72 h (Pseudokirchneriella subcapitata)	LC50= 0.044 mg/L Oncorhynchus mykiss 96 h LC50= 0.044 mg/L Pimephales promelas 96 h LC50 0.1 - 0.18 mg/L Pimephales promelas 96 h LC50= 0.17 mg/L Brachydanio rerio 96 h	EC50 = 0.29 mg/L 48 h (Daphnia magna)
Sodium bicarbonate	650 mg/L EC50 120 h (Nitzschia linearis)	LC50 8250 - 9000 mg/L Lepomis macrochirus 96 h	EC50 = 2350 mg/L 48 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)

Persistence and degradability No information available

Bioaccumulation: - No information available

Mobility - No information available

Chemical Name	log Pow
Sodium sulfite	-4
Hydroquinone	0.5

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment. Dispose of in accordance with local

regulations.

Contaminated packagingDo 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

<u>ICAO/IATA</u> Not regulated

IMDG/IMO Not regulated

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

15. REGULATORY INFORMATION

International Inventories

TSCA Complies DSL/NDSL Complies

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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 %
Hydroquinone - 123-31-9	1.0

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 does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Chemical Name	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Hydroquinone - 123-31-9		Group I		

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
Hydroquinone	100 lb	100 lb	

TSCA

Component	U.S TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Hydroquinone 123-31-9 (<2.5)	10/04/1984

Version 5

Revision Date 2013-09-12

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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
Hydroquinone	X	X	X	X	X
Sodium borate	Х		X		

International Regulations

Mexico - Grade

Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Hydroquinone	A3	Mexico: TWA 2 mg/m ³
Sodium borate		Mexico: TWA 1 mg/m ³

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 %
Sodium sulfite	7757-83-7	1-5
Hydroquinone	123-31-9	<2.5
Sodium borate	1330-43-4	0.1-1

Causes eye irritation. 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 IN EYES: Flush eyes for at least 15 minutes. Get medical attention.

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.

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



SAFETY DATA SHEET

Issuing date 2014-04-01 Revision Date 2014-04-01 Version 1

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

Product name: READYMATIC Fixer and Replenisher

Product code: 1028869FIX

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608

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

For other information contact: 800-328-2910

Product Use: Restricted to professional users. Photographic chemical.

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye Irritation	Category 2B

Label elements

Emergency Overview

Signal word	Warning	
hazard statements		
Causes skin irritation		
Causes eye irritation		



Appearance aqueous solution

Physical state liquid

Odor Ammonia

Precautionary Statements - Prevention

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

Precautionary Statement - Response

IF exposed or concerned: Get medical advice/attention.

Fves

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.

Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Water 7732-18-5	7732-18-5	80-90	*
Ammonium thiosulfate 7783-18-8	7783-18-8	10-15	*
Acetic acid 64-19-7	64-19-7	1-5	*
Ammonium sulfite 10196-04-0	10196-04-0	0.1-1	*
Sodium sulfite 7757-83-7	7757-83-7	0.1-1	*
Sodium borate 1330-43-4	1330-43-4	0.1-1	*

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

4. FIRST AID MEASURES

First Aid Measures

General advice If symptoms persist, call a physician.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention immediately if symptoms occur.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash

contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water.

Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Main Symptoms Irritation.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide (CO₂). Dry chemical. Foam.

Unsuitable Extinguishing Media

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

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 For personal protection see section 8. Ensure adequate ventilation.

Environmental precautions

Environmental precautions Do not allow material to contaminate ground water system. Local authorities should be

advised if significant spillages cannot be contained. Try to prevent the material from

entering drains or water courses.

Methods and material for containment and cleaning up

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.

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.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage

conditions

Keep container tightly closed in a dry and well-ventilated place.

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
Acetic acid	STEL 15 ppm		TWA: 10 ppm	
64-19-7	TWA: 10 ppm		TWA: 25 mg/m ³	
Sodium borate	STEL 6 mg/m ³		-	
1330-43-4	TWA: 2 mg/m ³			

Appropriate engineering controls

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

exposure limits. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Wear protective gloves/clothing. Skin contact should be prevented through use of suitable

protective clothing, gloves, and footwear, selected with regard of use conditions and

exposure potential.

Respiratory protectionNone required under normal conditions. If exposure limits are exceeded or irritation is

experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory

protection must be provided in accordance with current local regulations.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or

smoke when using this product. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid

Appearanceaqueous solutionOdorAmmonia

Color light yellow Odor Threshold No information available

PropertyValuesRemarks/ • Methodph4.4No information available

Melting point/range:

No information available

No information available

Boiling point/boiling range > 100 °C No information available Flash Point > 93.600 °C No information available.

Evaporation rateNo information available

Flammability (solid, gas)
upper flammability limit
lower flammability limit

Vapor pressure24 mbar @ 20 °CNo information availableVapor density0.6No information available

Specific GravityNo information availableWater Solubilitycompletely solubleNo information availableSolubility in other solventsNo information available

Partition coefficient: n-octanol/water
Autoignition temperature

No information available
No information available
No information available

Viscosity, kinematic

Viscosity, dynamic

No information available
No information available
No information available

Explosive propertiesNo information available

Oxidizing Properties No information available

Oxidizing i reperties

Other information

Softening pointNo information availableDensity VALUENo information availableBulk Density VALUENo information available

10. STABILITY AND REACTIVITY

Reactivity

None under normal use conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing. Contact with strong acids liberates sulfur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with strong bases liberates ammonia.

Conditions to Avoid

Do not freeze. Extreme pH's.

Incompatible Materials

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

Hazardous Decomposition Products

Ammonia. Chloramine. Sulfur oxides. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness,

stomach upset, hives, faintness, weakness and diarrhea. May cause irritation of respiratory

tract. May be harmful by inhalation.

Eye contact May cause eye irritation.

Skin contact May cause irritation.

Ingestion May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may

experience wheezing, chest tightness, stomach upset, hives, faintness, weakness 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)	-	-
Acetic acid 64-19-7	3310 mg/kg (Rat)	1060 mg/kg(Rabbit)	11.4 mg/L (Rat) 4 h Inhalation LC50 Rat 11.4 mg/L 4 h (Source: NLM_CIP)
Ammonium sulfite 10196-04-0	2500 mg/kg (Rat)	-	-

Sodium sulfite	820 mg/kg (Rat)	-	22 mg/L (Rat)1 h
7757-83-7	Oral LD50 Rat 820 mg/kg (Source:		Inhalation LC50 Rat >22 mg/L 1 h
	IUCLID)		(Source: IUCLID)
Sodium borate	2660 mg/kg (Rat)	2000 mg/kg (Rabbit)	-
1330-43-4 Oral LD50 Rat 2660 mg/kg (Sc		Dermal LD50 Rabbit >2000 mg/kg	
	IUCLID)	(Source: IUCLID)	

Chemical Name	Other applicable information
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.
Sodium sulfite	No skin irritation Mild 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.

Information on toxicological effects

Symptoms No information available.

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

SensitizationNo information available.mutagenic effectsNo information available.

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.

STOT - single exposure
STOT - repeated exposure
No information available
No information available

Chronic toxicity Prolonged exposure may cause chronic effects.

Target Organ Effects Eyes, Skin, Respiratory system, Teeth.

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)
 16260 mg/kg (ATE)

 ATEmix (dermal)
 49717 mg/kg (ATE)

 ATEmix (inhalation-dust/mist)
 534 mg/L (ATE)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to	Toxicity to daphnia and
			microorganisms	other aquatic invertebrates

	Acetic acid 64-19-7		75: 96 h Lepomis macrochirus mg/L LC50 static 79: 96 h Pimephales	65: 48 h Daphnia magna mg/L EC50 Static
			promelas mg/L LC50 static	
ſ	Sodium borate	2.6 - 21.8: 96 h	340: 96 h Limanda limanda	1085 - 1402: 48 h Daphnia
	1330-43-4	Pseudokirchneriella	mg/L LC50	magna mg/L LC50
		subcapitata mg/L EC50		
		static 158: 96 h		
		Desmodesmus subspicatus		
		mg/L EC50		

Persistence and degradability

Expected to be readily biodegradable.

Bioaccumulation:

No information available.

Chemical Name	log Pow
Acetic acid 64-19-7	-0.31
Sodium sulfite 7757-83-7	-4

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated packagingDo not re-use empty containers. Dispose of in accordance with local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status	
Acetic acid	Toxic	
64-19-7	Corrosive	
	Ignitable	

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

<u>IMDG/IMO</u> Not regulated

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

15. REGULATORY INFORMATION

International Inventories

TSCA Complies **DSL/NDSL** Complies Complies **EINECS/ELINCS** Complies **ENCS IECSC** Complies **KECL** Complies **PICCS** Complies Complies **AICS** Complies **NZIoC**

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 %
Ammonium thiosulfate - 7783-18-8	1.0
Ammonium sulfite - 10196-04-0	1.0

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):

an	Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
	Acetic acid	5000 lb			Х
	Ammonium sulfite	5000 lb			Х

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

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

7 101.				
Chemical Name	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetic acid - 64-19-7		Group II		

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
Acetic acid	5000 lb		
Ammonium sulfite	5000 lb		

TSCA

This product does not contain any chemicals regulated under TSCA Section 4, Section 5(a), Section 8(a) or Section 8(d).

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		
Acetic acid	Х	Х	Х		Х
Ammonium sulfite	Х	Х	X		
Sodium borate	Х		X		

International Regulations

Mexico - Grade Moderate risk, Grade 2

 monitor order monitorion, order =		
Chemical Name	Carcinogen Status	Exposure Limits
Acetic acid		Mexico: TWA 10 ppm
		Mexico: TWA 25 mg/m ³
		Mexico: STEL 15 ppm
		Mexico: STEL 37 mg/m ³
Sodium borate		Mexico: TWA 1 mg/m ³

16. OTHER INFORMATION

NFPA Health Hazard 3 Flammability 1 Instability 0 Health Hazard 1* Flammability 1 Physical Hazard 0

 Issuing date
 2014-02-05

 Revision Date
 2014-04-01

Revision Note Update to OSHA GHS SDS format

Disclaimer

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End of Safety Data Sheet