SAFETY DATA SHEET

Issuing Date 09/12/2017 **Revision Date** 09/12/2017 **Revision Number** 1

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

Product name: Rapid Access Developer

Product Code(s) 8606899DEV

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 Photographic chemical. Restricted to professional users.

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Corrosive to metals	Category 1

Label elements

Emergency Overview

Signal word **Danger**

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer
May be corrosive to metals

Contains Hydroquinone
Appearance Liquid **Physical state** liquid **Odor** Slight

Precautionary Statements - Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statement - Response
Absorb spillage to prevent material damage. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER or physician. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Rinse mouth.

Precautionary Statement - Storage
Store in corrosive resistant container with a resistant inliner. Store locked up.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)
• Not applicable

Other hazards which do not result in classification
Very toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	Trade Secret
Hydroquinone 123-31-9	123-31-9	5-10	*
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 Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.

Eye contact Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.

Skin contact Immediate medical attention is required. Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediate medical attention is required. Administer oxygen if breathing is difficult. If not breathing, give artificial respiration.

Ingestion Immediate medical attention is required. Rinse mouth. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Main Symptoms CORROSIVE. Burning. Coughing and/ or wheezing. Difficulty breathing. respiratory distress. Causes eye burns. May cause an allergic skin reaction. Irritation. Rashes. Hives.

Indication of any immediate medical attention and special treatment needed

Notes to physician May cause sensitization of susceptible persons. Probable mucosal damage may contraindicate the use of gastric lavage. 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
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products
Carbon 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 Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. 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. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

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 Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Keep container tightly closed.

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 Strong acids. Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines The following constituents are the only constituents of the product present above the cutoff value which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Chemical name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Hydroquinone 123-31-9	TWA: 1 mg/m³		TWA: 2 mg/m³	
Sodium borate 1330-43-4	STEL 6 mg/m³ TWA: 2 mg/m³		-	
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³		-	
Benzyl alcohol 100-51-6	-	TWA: 10 ppm	-	
Polyethylene glycol 25322-68-3	-	TWA: 10 mg/m³	-	

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 Tightly fitting safety goggles. Face-shield.

Skin and body protection Impervious clothing. Impervious 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 When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke. 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		
Appearance	Liquid	**Odor**	Slight
Color	Clear light yellow	**Odor threshold**	No information available

Property	Values	Remarks • Method
pH	12.2	
Melting point / freezing point		No information available
Boiling point / boiling range	> 100 °C	
Flash point		.

Evaporation rate		No information available
Flammability (solid, gas)	no data available	No information available
Upper flammability limit:	Unknown	
Lower flammability limit:	Not flammable	
Vapor pressure	24 mbar @ 20 °C	
Vapor density	0.6	
Specific Gravity		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.

Conditions to Avoid
Heat, flames and sparks.

Incompatible Materials
Strong acids. Oxidizing agents.

Hazardous decomposition products
Carbon oxides, Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.

Skin contact Causes burns. May cause sensitization by skin contact.

Ingestion Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach.

Toxicology data for the components

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydroquinone 123-31-9	375 mg/kg (Rat) Oral LD50 Rat 375 mg/kg (Source: ECHA)	> 4800 mg/kg (Rat)	-
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)	-

Information on toxicological effects

Symptoms Causes burns. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Causes severe eye damage. Allergic skin reactions including rash, dermatitis, irritation, and itching.

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

Corrosivity Risk of serious damage to eyes. Causes burns.
Sensitization May cause sensitization by skin contact.
Mutagenic effects Contains a known or suspected mutagen.
Carcinogenicity Contains a known or suspected carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Hydroquinone 123-31-9	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

Reproductive toxicity Contains ingredients that are suspected reproductive hazards. 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
Chronic toxicity Effects expected to be similar to those seen acutely.
Target Organ Effects Skin, Eyes, Respiratory system, Gastrointestinal tract (GI).
Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

Unknown acute toxicity
The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 7283 mg/kg
ATEmix (dermal) 20368 mg/kg ppm mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life

0.12% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydroquinone	0.335: 72 h	0.1 - 0.18: 96 h Pimephales		0.29: 48 h Daphnia magna

123-31-9	Pseudokirchneriella subcapitata mg/L EC50 13.5: 120 h Desmodesmus subspicatus mg/L EC50	promelas mg/L LC50 static 0.044: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.044: 96 h Pimephales promelas mg/L LC50 flow-through 0.17: 96 h Brachydanio rerio mg/L LC50		mg/L EC50
Sodium borate 1330-43-4	2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 158: 96 h Desmodesmus subspicatus mg/L EC50	340: 96 h Limanda limanda mg/L LC50		1085 - 1402: 48 h Daphnia magna mg/L LC50

Persistence and degradability
No data is available on the product itself. Expected to be readily biodegradable.

Bioaccumulation:
No information available.

Chemical name	log Pow
Hydroquinone 123-31-9	0.5

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Should not be released into the environment. 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

UN Number	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
Special Provisions	IB3, T7, TP1, TP28
Emergency Response Guide Number	154
Description	UN3266, Corrosive liquid, basic, inorganic, n.o.s (POTASSIUM HYDROXIDE), 8, III , Limited Quantity

TDG

UN Number	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III

Description	UN3266, Corrosive liquid, basic, inorganic, n.o.s (POTASSIUM HYDROXIDE), 8, III, Limited Quantity

IATA

UN Number	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
ERG Code	8L
Special Provisions	A3, A803
Description	UN3266, Corrosive liquid, basic, inorganic, n.o.s (POTASSIUM HYDROXIDE), 8, III, Limited Quantity

IMDG

UN Number	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
EmS-No.	F-A, S-B
Special Provisions	223, 274
Description	UN3266, Corrosive liquid, basic, inorganic, n.o.s (POTASSIUM HYDROXIDE), 8, III, Marine Pollutant, Limited Quantity

This product meets the requirements of the limited quantity exemption. The shipping case will be marked as a limited quantity. It does not require other labeling or placarding except if transported by aircraft.

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 %

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

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 lb			X

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		
Benzyl alcohol - 100-51-6		Group III		

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	
Potassium hydroxide	1000 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 (5-10)	10/04/1984

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	X		X		
Potassium hydroxide	X	X	X		X
Benzyl alcohol	X		X		

International Regulations

Mexico - Grade Serious risk, Grade 3

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

16. OTHER INFORMATION

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

Issuing Date	02/05/2014
Revision Date	09/12/2017
Revision Note	(M)SDS sections updated

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

SAFETY DATA SHEET

Issuing Date 09/12/2017 **Revision Date** 09/12/2017 **Revision Number** 1.01

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

Product name: Rapid Access Fixer

Product Code(s) 8606899FIX

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

2. HAZARDS IDENTIFICATION

Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Emergency Overview

Appearance Liquid **Physical state** liquid **Odor** Odorless

Hazards not otherwise classified (HNOC)
• May be harmful if swallowed

Other hazards which do not result in classification

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

4. FIRST AID MEASURES

First Aid Measures

General advice Show this material 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 Clean mouth with water and afterwards drink plenty of water. 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
Cool containers / tanks with water spray. Carbon dioxide (CO_2). Foam. Dry chemical.

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

Specific hazards arising from the chemical
No information available.

Hazardous combustion products
Carbon 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. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

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

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 None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines The following constituents are the only constituents of the product present above the cutoff value which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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		-	
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 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		
Appearance	Liquid	**Odor**	Odorless
Color	colorless to light yellow	**Odor threshold**	No information available

Property	**Values**	**Remarks • Method**
pH	5.45	+/- 0.1 @ 25 °C
Melting point / freezing point		No information available
Boiling point / boiling range	>= 100 °C	No information available
Flash point		No information available.
Evaporation rate		No information available
Flammability (solid, gas)	no data available	
Upper flammability limit:	Unknown	
Lower flammability limit:	Not flammable	
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity	1.18	No information available
Water solubility	completely soluble	No information available
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	
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable. @ 20 °C

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing. Contact with a strong oxidizer or acid may liberate hydrogen cyanide gas. 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
Excessive heat. Do not freeze. Extreme pH's.

Incompatible Materials
None known based on information supplied.

Hazardous decomposition products
Ammonia. Sulfur oxides. Chloramine. Nitrogen oxides (NOx). Hydrogen cyanide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Expected to be a low hazard for recommended handling. May cause irritation of respiratory tract.
Eye contact	May cause slight irritation.
Skin contact	Expected to be a low hazard for recommended handling. May cause skin irritation and/or dermatitis.
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Toxicology data for the components

Information on toxicological effects

Symptoms No information available.

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

Sensitization	Repeated or prolonged contact may cause allergic reactions in very susceptible persons.
Mutagenic effects	No information available.
Carcinogenicity	Contains no ingredients above reportable quantities listed as a carcinogen.
Reproductive toxicity	No information available.
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	Skin, Eyes.
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)	2869 mg/kg
ATEmix (dermal)	5789 mg/kg
ATEmix (inhalation-dust/mist)	7.9 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

None known

Persistence and degradability
No data is available on the product itself. Expected to be readily biodegradable.

Bioaccumulation:
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.

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

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

15. REGULATORY INFORMATION

"Does not comply" indicates a component is either not on the public inventory or is subject to exemption requirements. If additional information is needed contact Carestream Health.

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 %

Ammonium thiosulfate - 7783-18-8	1.0
Ammonium thiocyanate - 1762-95-4	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
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 thiocyanate	5000 lb			X
Sodium bisulfite	5000 lb			X
Acetic acid	5000 lb			X

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 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Product RQ
Ammonium thiocyanate	5000 lb		
Sodium bisulfite	5000 lb		
Acetic acid	5000 lb		

TSCA

This material contains a chemical which is 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		
Ammonium thiocyanate	X	X	X		X
Sodium bisulfite	X	X	X		X
Acetic acid	X	X	X		X

International Regulations

Mexico - Grade No information available

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

16. OTHER INFORMATION

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

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Revision Note (M)SDS sections updated

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