Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Dentsply Rinn® Rapid Process Fixer**

Product Code • 220406; 221406

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Professional dental photographic processing solution (fixer).

1.3 Details of the supplier of the safety data sheet

Manufacturer • PhotoSystems Inc.
7200 Huron River Dr.
Dexter, MI 48130
United States

Telephone (General) • 734-424-9625

1.4 Emergency telephone number

Manufacturer (Transportation) • 1-800-424-9300 - CHEMTREC

Section 2: Hazards Identification

EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Eye Irritation 2 - H319
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335

DSD/DPD • Irritant (Xi)
R36/37

2.2 Label Elements

CLP

WARNING

Hazard statements

• H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements

Prevention • P261 - Avoid breathing dust, fume, gas, mist, vapours and/or spray.
P264 - Wash thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

Storage/Disposal
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases
- R36/37 - Irritating to eyes and respiratory system.

Safety phrases
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD
- According to European Directive 1999/45/EC this preparation is considered dangerous.

UN GHS

According to Third Revised Edition

2.1 Classification of the substance or mixture

UN GHS
- Eye Irritation 2 - H319
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335

2.2 Label elements

UN GHS

WARNING

Hazard statements

- H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statements

Prevention
- P261 - Avoid breathing dust, fume, gas, mist, vapours and/or spray.
P264 - Wash thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Storage/Disposal
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

UN GHS
- According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS

- Irritant

2.2 Label elements

OSHA HCS

- Not required

2.3 Other hazards

OSHA HCS

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008. Material does not meet the criteria of a substance according to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

3.2 Mixtures

Hazardous Components					
Chemical Name	**Identifiers**	**%(weight)**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Ammonium thiosulfate	**CAS:**7783-18-8 **EINECS:**231-982-0	20% TO 25%	Ingestion/Oral-Rat LD50 · 2890 mg/kg	**UN GHS:** Acute Tox. 5, Skin Irrit 2, Eye Irrit 2 **EU DSD/DPD:** Self Classified- Xi; R36/38 **EU CLP:** Self Classified - Eye Irrit. 2; Skin Irrit. 2	NDA
Acetic acid	**CAS:**64-19-7 **EC Number:**200-580-7 **UN:**UN2789	1% TO 3%	Ingestion/Oral-Rat LD50 · 3310 mg/kg Inhalation-Rat LC50 · 11400 mg/m³ 4 Hour(s) Skin-Rabbit LD50 · 1060 mg/kg	**UN GHS:** Eye Dam 1A; Skin Corr. 1A; Acute Tox. 4 - oral and dermal; Aquatic Acute 3; **EU DSD/DPD:** Annex I - R10 C; R35 **EU CLP:** Annex VI - Flam. Liq. 3; Skin Corr 1A;	NDA
Sodium metabisulfite	**CAS:**7681-57-4 **EC Number:**231-673-0	1% TO 3%	Ingestion/Oral-Rat LD50 · 1131 mg/kg Skin-Rat LD50 · >2 g/kg	**UN GHS:**Skin Irrit. 2, Acute Tox.4-oral; Aquatic Acute 3; **EU DSD/DPD:** Annex I - Xn; R22; Xi; R41; R31 **EU CLP:** Annex VI - Acute Tox. 4*; Eye Dam. 1	NDA

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. Call a physician or poison control center immediately. If victim is fully conscious, give a cupful of water.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- No special treatment necessary. If adverse effects occur treat symptomatically and supportively.

4.4 Other information

- Call 911 or emergency medical service. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Keep victim warm and quiet.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Material is non-combustible. In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media
- None known.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- Mixture contains a strong reducing agent. Dried product residue can act as a reducing agent.

Hazardous Combustion Products
- Carbon and nitrogen oxides.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
  Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate enclosed areas. Avoid contact with skin and eyes.

Emergency Procedures
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
  Absorb or cover with dry earth, sand or other non -combustible material and transfer to containers.
  LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use good safety and industrial hygiene practices. Use only with adequate ventilation. Avoid contact with eyes, skin, and clothing. Do not breathe (dust, vapor or spray mist) Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage
- Keep away from incompatible materials. Store locked up. Keep container/package tightly closed in a cool, well-ventilated place. Do not store or consume food, drink, or tobacco where they may become contaminated with this material.

Incompatible Materials or Ignition Sources
- Strong oxidizing agents. Strong acids, sodium hypochlorite (bleach), Halogenated compounds, Strong bases. Contact with sodium hypochlorite (bleach) may form chloramines (toxic gas). Contact with strong acids liberate sulphur dioxide. Contact with base liberates ammonia. Contact with base liberates flammable material.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	Germany DFG
Acetic acid (64-19-7)	STELs	15 ppm STEL	15 ppm STEV; 37 mg/m3 STEV	15 ppm STEV; 37 mg/m3 STEV	20 mg/m3 STEL	Not established
	TWAs	10 ppm TWA	10 ppm TWAEV; 25 mg/m3 TWAEV	10 ppm TWAEV; 25 mg/m3 TWAEV	10 mg/m3 TWA	Not established
	Ceilings	Not established	Not established	Not established	Not established	20 ppm Peak; 50 mg/m3 Peak
	MAKs	Not established	Not established	Not established	Not established	10 ppm MAK; 25 mg/m3 MAK
Sodium metabisulfite (7681-57-4)	TWAs	5 mg/m3 TWA	5 mg/m3 TWAEV	5 mg/m3 TWAEV	Not established	Not established

Exposure Limits/Guidelines (Con't.)				
	Result	Germany TRGS	NIOSH	OSHA
Acetic acid (64-19-7)	TWAs	10 ppm TWA (exposure factor 2); 25 mg/m3 TWA (exposure factor 2)	10 ppm TWA; 25 mg/m3 TWA	10 ppm TWA; 25 mg/m3 TWA
	STELs	Not established	15 ppm STEL; 37 mg/m3 STEL	Not established
Sodium metabisulfite (7681-57-4)	TWAs	Not established	5 mg/m3 TWA	Not established

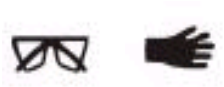
8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Pictograms

- 

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear impervious gloves and protective clothing suitable for the risk of exposure.

General Industrial Hygiene Considerations

- Do not get in eyes or on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

OSHA = Occupational Safety and Health Administration

NIOSH = National Institute of Occupational Safety and Health

MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration

STEL = Short Term Exposure Limits are based on 15-minute exposures

STEV = Short Term Exposure Value

TWAEV = Time-Weighted Average Exposure Value

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	**Appearance/Description**	Light yellow liquid, with ammonia odor.
Color	Light yellow.	**Odor**	Ammonia odor.
Taste	No data available	**Particulate Type**	No data available
Particulate Size	No data available	**Aerosol Type**	No data available
Odor Threshold	No data available	**Physical and Chemical Properties**	No data available
General Properties			
Boiling Point	> 100 C(> 212 F)	**Melting Point**	No data available
Decomposition Temperature	No data available	**Heat of Decomposition**	No data available
pH	4.34	**Specific Gravity/Relative Density**	1.11 Water=1
Density	9.26 lbs/gal	**Bulk Density**	No data available
Water Solubility	Soluble	**Solvent Solubility**	No data available
Viscosity	No data available	**Explosive Properties**	No data available
Oxidizing Properties:	No data available		
Volatility			
Vapor Pressure	18 mmHg (torr)	**Vapor Density**	No data available
Evaporation Rate	No data available	**VOC (Wt.)**	0.23 lbs/gal
VOC (Vol.)	No data available	**Volatiles (Wt.)**	No data available
Volatiles (Vol.)	No data available		
Flammability			
Flash Point	Not relevant Material is not combustible.	**Flash Point Test Type**	Not relevant Material is not combustible.
UEL	Not relevant	**LEL**	Not relevant
Autoignition	No data available	**Self-Accelerating Decomposition Temperature (SADT)**	No data available
Heat of Combustion (ΔHc)	No data available	**Burning Time**	No data available
Flame Duration	No data available	**Flame Height**	No data available
Flame Extension	No data available	**Ignition Distance**	No data available
Flammability (solid, gas)	No data available		
Environmental			
Half-Life	No data available	**Octanol/Water Partition coefficient**	No data available
Coefficient of water/oil distribution	No data available	**Bioaccumulation Factor**	No data available
Bioconcentration Factor	No data available	**Biochemical Oxygen Demand BOD/BOD5**	No data available
Chemical Oxygen Demand	No data available	**Persistence**	No data available
Degradation	No data available		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Incompatible materials. Excess heat.

10.5 Incompatible materials

- Strong oxidizing agents. Strong acids, sodium hypochlorite (bleach), Halogenated compounds, Strong bases. Contact with sodium hypochlorite (bleach) may form chloramines (toxic gas). Contact with strong acids liberate sulphur dioxide. Contact with base liberates ammonia. Contact with base liberates flammable material.

10.6 Hazardous decomposition products

- Ammonia, chloramines, and oxides of sulfur.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Component Name	CAS	Data
Ammonium thiosulfate (20% TO 25%)	7783-18-8	**Acute Toxicity:** orl-rat LD50:2890 mg/kg; ihl-rat LC :>2260 mg/m3/4H
Acetic acid (1% TO 3%)	64-19-7	**Acute Toxicity:** orl-rat LD50:3310 mg/kg; ihl-rat LC50:11400 mg/m3/4H; skn-rbt LD50:1060 mg/kg; **Irritation:** eye-rbt 5 mg/30S rinse MLD; skn-rbt 525 mg open SEV; **Tumorigen/Carcinogen:** orl-rat TDLo:5760 mg/kg/32W-I

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Eye Irritation 2 **UN GHS** • Eye Irritation 2
Skin sensitization	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Respiratory sensitization	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Aspiration Hazard	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Carcinogenicity	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
Germ Cell Mutagenicity	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met

Toxicity for Reproduction	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **UN GHS** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP** • Classification criteria not met **UN GHS** • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- No data available.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- Under normal conditions of use, no health effects are expected. However, some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chronic (Delayed)
- No data available.

Section 12 - Ecological Information

12.1 Toxicity

Dentsply Rinn® Rapid Process Fixer					
Dosage	**Species**	**Duration**	**Results**	**Exposure Conditions**	**Comments**
= 32 mg/L	**Fish:** Bluegill	96 Hour(s)	LC50	NDA	Pyrosulfurous acid, disodium salt component
= 79 mg/L	**Fish:** Fathead Minnow	96 Hour(s)	LC50	NDA	Acetic acid component

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been carried out.

12.6 Other adverse effects

Potential Environmental Effects
- Material data lacking. This material does contain components that are harmful to the aquatic environment.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Recover silver before disposal. Waste material is currently classified as hazardous under Council Directive 91/689/EEC. The European Waste Catalogue Code is 09 01 04 Fixer solutions. The preferred options for disposal are to send to licensed reclaimers, or to permitted incinerators. Any disposal practice must be in compliance with federal, state, and local regulations. Do not dump into sewers, ground, or any body of water.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Triple rinse with water. Waste product packaging may be consigned for recovery or disposal as non hazardous waste. Whenever possible, minimize waste by using the rinse water to make up the working solution. The European Waste Catalogue Code is 15 01 02 plastic packaging. Waste product packaging contaminated by residues of hazardous contents should be consigned for disposal as hazardous waste. In this instance, the European Waste Catalogue Code is 15 01 10 packaging containing residues of or contaminated by dangerous substances.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- This product is provided only in non-bulk containers.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute

State Right To Know				
Component	**CAS**	**MA**	**NJ**	**PA**
Water	7732-18-5	No	No	No
Ammonium thiosulfate	7783-18-8	Yes	No	Yes
Acetic acid	64-19-7	Yes	Yes	Yes
Sodium metabisulfite	7681-57-4	Yes	Yes	Yes

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Water	7732-18-5	Yes	No	Yes	No	Yes
Ammonium thiosulfate	7783-18-8	Yes	No	Yes	No	Yes
Acetic acid	64-19-7	Yes	No	Yes	No	Yes

Sodium metabisulfite	7681-57-4	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

● Acetic acid	64-19-7	1% TO 3%	B3, E (including 10-80% [Available data does not allow a precise evaluation of the threshold concentration from which solutions meet the B3 criterion], >80%); D2B (3-10%)
● Sodium metabisulfite	7681-57-4	1% TO 3%	Uncontrolled product according to WHMIS classification criteria
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Uncontrolled product according to WHMIS classification criteria (including 60%)
● Water	7732-18-5	65% TO 70%	Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

● Acetic acid	64-19-7	1% TO 3%	1 %
● Sodium metabisulfite	7681-57-4	1% TO 3%	1 %
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

Environment

Canada - CEPA - Priority Substances List

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

● Acetic acid	64-19-7	1% TO 3%	5000 lb final RQ; 2270 kg final RQ
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed

● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

● Acetic acid	64-19-7	1% TO 3%	Not Listed
● Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
● Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
● Water	7732-18-5	65% TO 70%	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Acetic acid	64-19-7	1% TO 3%	Not Listed
• Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
• Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
• Water	7732-18-5	65% TO 70%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Acetic acid	64-19-7	1% TO 3%	Not Listed
• Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
• Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
• Water	7732-18-5	65% TO 70%	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Acetic acid	64-19-7	1% TO 3%	Not Listed
• Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
• Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
• Water	7732-18-5	65% TO 70%	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Acetic acid	64-19-7	1% TO 3%	
• Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
• Ammonium thiosulfate	7783-18-8	20% TO 25%	
• Water	7732-18-5	65% TO 70%	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Acetic acid	64-19-7	1% TO 3%	Not Listed
• Sodium metabisulfite	7681-57-4	1% TO 3%	Not Listed
• Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
• Water	7732-18-5	65% TO 70%	Not Listed

United States - Rhode Island

Labor

U.S. - Rhode Island - Hazardous Substance List

• Acetic acid	64-19-7	1% TO 3%	Toxic; Flammable
• Sodium metabisulfite	7681-57-4	1% TO 3%	Toxic
• Ammonium thiosulfate	7783-18-8	20% TO 25%	Not Listed
• Water	7732-18-5	65% TO 70%	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date	• 27/February/2012
Preparation Date	• 13/March/2012
Disclaimer/Statement of Liability	• The information contained herein is based on the data available to us and is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for the injuries from the use of the product described herein.

Key to abbreviations

NDA = No data available