SAFETY DATA SHEETS

This SDS packet was issued with item:

078127988

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

078021828 078021869 078021885 078021893 078094771 078113989 078169026 078306003 078306011 078306201 078306300 078312994 078336075 078358859 078399624 078399632 078420039 078685526 078685534 078685542 078685559 078685567 078685575 078704238

The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).

078085145 078087087 078088855 078309789

WATERWISE®
Purity Since 1977
Purification Systems

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier **Kleenwise®**

Other means of identification Not available

Recommended use Water Processing Equipment Cleaner

Recommended restrictions None known.

Responsible Party Waterwise® Inc
3608 Parkway Blvd.
Leesburg, FL 34748-9399 US
Phone 352-787-5008
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statement

Prevention Keep only in original container.
Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response Absorb spillage to prevent material damage.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see this label).

Storage Store in corrosive resistant container with a resistant inner liner.
Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Sulfamic acid		5329-14-6	60 - 100
Citric Acid		77-92-9	10 - 30

Composition comments US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

Inhalation If inhaled: Remove person to fresh air and keep comfortable for breathing.

Skin contact	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Eye contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
Ingestion	If swallowed: Rinse mouth. Do NOT induce vomiting.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Wear rubber gloves and chemical splash goggles.

5. Fire Fighting Measures

Suitable extinguishing media	Carbon dioxide (CO2). Water spray. Dry chemical powder. Foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Firefighters should wear a self-contained breathing apparatus.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray. Cool containers with flooding quantities of water until well after fire is out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulfur. Ammonia.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Absorb spillage to prevent material damage. Use water spray to reduce vapors or divert vapor cloud drift. Large Spills: Wet down with water and dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewers, basements or confined areas.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and Storage

Precautions for safe handling	Use only with adequate ventilation. Avoid breathing dust. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive resistant container with a resistant inner liner. Store in a closed container away from incompatible materials. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Keep out of the reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	This material does not have established exposure limits.
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) 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.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Other	As required by employer code. Rubber apron recommended.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Powder.
Physical state	Solid.
Form	Solid.
Color	Yellow
Odor	Odorless
Odor threshold	Not available.
pH	0.89 (10% w/w), Acid reserve 33.56g NaOH/100g
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	This product may react with reducing agents. May react with strong bases or oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Caustics. Oxidizers. Bases. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Ammonia. Oxides of carbon. Oxides of nitrogen. Oxides of sulfur.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.

Information on likely routes of exposure

Ingestion	Causes digestive tract burns.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Citric Acid (CAS 77-92-9)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Mouse	5040 mg/kg
	Rat	3000 mg/kg
Sulfamic acid (CAS 5329-14-6)		
Acute		
Oral		
LD50	Guinea pig	1050 mg/kg
	Mouse	1312 mg/kg
	Rat	3160 mg/kg

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Exposure minutes	Not available.
Erythema value	Not available.
Oedema value	Not available.
Serious eye damage/eye irritation	Causes serious eye damage.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. Non-hazardous by WHMIS/OSHA criteria.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity See below

Components		Species	Test Results
Citric Acid (CAS 77-92-9)			
Acute			
Crustacea	EC50	Daphnia magna	120 mg/l, 72 hr
Aquatic			
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	1516 mg/l, 96 hr
Sulfamic acid (CAS 5329-14-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	14.2 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions Review federal, state/provincial, and local government requirements prior to disposal. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number UN1759
Proper shipping name Corrosive solids, n.o.s. (Sulfamic acid)
Hazard class 8
Packing group III
Special provisions 128, IB8, IP3, T1, TP33
Packaging exceptions 154
Packaging non bulk 213
Packaging bulk 240

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number UN1759
Proper shipping name CORROSIVE SOLID, N.O.S. (Sulfamic acid)
Hazard class 8
Packing group III
Special provisions 16

DOT

TDG

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Canada WHMIS Ingredient Disclosure: Threshold limits

Citric Acid (CAS 77-92-9)	1 %
Sulfamic acid (CAS 5329-14-6)	1 %

WHMIS status Controlled

WHMIS classification Class E - Corrosive Material

WHMIS labeling

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - New Jersey RTK - Substances: Listed substance

Sulfamic acid (CAS 5329-14-6) Listed.

US - Texas Effects Screening Levels: Listed substance

Citric Acid (CAS 77-92-9) Listed.
Sulfamic acid (CAS 5329-14-6) Listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

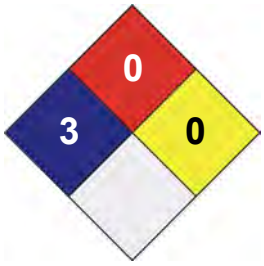
Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0



Disclaimer The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

Issue date 12-February-2015

Effective date 01-February-2015

Expiry date 01-February-2018

Further information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Prepared by Dell Tech Laboratories Ltd. Phone: (519) 858-5021

Other information Redbook revision # 1, 1/23/14

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
This SDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

WATERWISE® Purity Since 1977 Purification Systems

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier Kleenwise®

Other means of identification Not available

Recommended use Water Processing Equipment Cleaner

Recommended restrictions None known.

Responsible Party

Waterwise® Inc
3608 Parkway Blvd.
Leesburg, FL 34748-9399 US
Phone 352-787-5008
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statement

Prevention Keep only in original container.
Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response Absorb spillage to prevent material damage.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Specific treatment (see this label).

Storage Store in corrosive resistant container with a resistant inner liner.
Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Sulfamic acid		5329-14-6	60 - 100
Citric Acid		77-92-9	10 - 30

Composition comments US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First Aid Measures

Inhalation If inhaled: Remove person to fresh air and keep comfortable for breathing.

Skin contact	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Eye contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
Ingestion	If swallowed: Rinse mouth. Do NOT induce vomiting.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Wear rubber gloves and chemical splash goggles.

5. Fire Fighting Measures

Suitable extinguishing media	Carbon dioxide (CO2). Water spray. Dry chemical powder. Foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Firefighters should wear a self-contained breathing apparatus.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire-fighting equipment/instructions	In the event of fire, cool tanks with water spray. Cool containers with flooding quantities of water until well after fire is out.
Specific methods	Cool containers exposed to flames with water until well after the fire is out.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of sulfur. Ammonia.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Absorb spillage to prevent material damage. Use water spray to reduce vapors or divert vapor cloud drift. Large Spills: Wet down with water and dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewers, basements or confined areas.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and Storage

Precautions for safe handling	Use only with adequate ventilation. Avoid breathing dust. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive resistant container with a resistant inner liner. Store in a closed container away from incompatible materials. Keep only in the original container. Store in a cool, dry place out of direct sunlight. Keep out of the reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	This material does not have established exposure limits.
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) 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.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Other	As required by employer code. Rubber apron recommended.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Thermal hazards	Not applicable.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Powder.
Physical state	Solid.
Form	Solid.
Color	Yellow
Odor	Odorless
Odor threshold	Not available.
pH	0.89 (10% w/w), Acid reserve 33.56g NaOH/100g
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	This product may react with reducing agents. May react with strong bases or oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Caustics. Oxidizers. Bases. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Ammonia. Oxides of carbon. Oxides of nitrogen. Oxides of sulfur.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.

Information on likely routes of exposure

Ingestion	Causes digestive tract burns.
Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Citric Acid (CAS 77-92-9)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Mouse	5040 mg/kg
	Rat	3000 mg/kg
Sulfamic acid (CAS 5329-14-6)		
Acute		
Oral		
LD50	Guinea pig	1050 mg/kg
	Mouse	1312 mg/kg
	Rat	3160 mg/kg

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Exposure minutes	Not available.
Erythema value	Not available.
Oedema value	Not available.
Serious eye damage/eye irritation	Causes serious eye damage.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. Non-hazardous by WHMIS/OSHA criteria.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity See below

Components		Species	Test Results
Citric Acid (CAS 77-92-9)			
Acute			
Crustacea	EC50	Daphnia magna	120 mg/l, 72 hr
Aquatic			
Acute			
Fish	LC50	Bluegill (Lepomis macrochirus)	1516 mg/l, 96 hr
Sulfamic acid (CAS 5329-14-6)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	14.2 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions Review federal, state/provincial, and local government requirements prior to disposal. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN1759
Proper shipping name	Corrosive solids, n.o.s. (Sulfamic acid)
Hazard class	8
Packing group	III
Special provisions	128, IB8, IP3, T1, TP33
Packaging exceptions	154
Packaging non bulk	213
Packaging bulk	240

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN1759
Proper shipping name	CORROSIVE SOLID, N.O.S. (Sulfamic acid)
Hazard class	8
Packing group	III
Special provisions	16

DOT

TDG

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Canada WHMIS Ingredient Disclosure: Threshold limits

Citric Acid (CAS 77-92-9)	1 %
Sulfamic acid (CAS 5329-14-6)	1 %

WHMIS status Controlled

WHMIS classification Class E - Corrosive Material

WHMIS labeling

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - New Jersey RTK - Substances: Listed substance

Sulfamic acid (CAS 5329-14-6) Listed.

US - Texas Effects Screening Levels: Listed substance

Citric Acid (CAS 77-92-9) Listed.
Sulfamic acid (CAS 5329-14-6) Listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

Not regulated.

US. Rhode Island RTK

Not regulated.

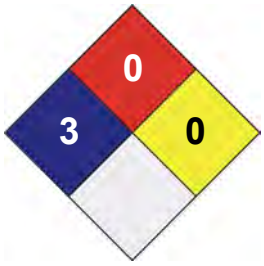
Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0



Disclaimer The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

Issue date 12-February-2015

Effective date 01-February-2015

Expiry date 01-February-2018

Further information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Prepared by Dell Tech Laboratories Ltd. Phone: (519) 858-5021

Other information Redbook revision # 1, 1/23/14

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
This SDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

TORPAC® Special Capsules Capsule Machinery Soluble Containers

MATERIAL SAFETY DATA SHEET – GELATIN CAPSULES

SECTION I

Manufacturer's Name: Torpac Inc.

Address: 333 Route 46, Fairfield, NJ 07004, USA

Emergency Tel. #: 1-973-244-1125 Fax #: 1-973-244-1365

Chemical Name and Synonyms: Hard Gelatin Capsules

Trade Name and Synonyms: Torpac Capsules

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Ingredients: None

Hazardous Mixtures of Other Liquids, Solids or Gases: None

SECTION III -PHYSICAL DATA

Boiling Point (^{o}F): None, Solid **Specific gravity (H_2O = 1):** 1.01

Vapor Pressure: None,Solid **Percent Volatile by Vol:** N/A

Vapor Density: None, Solid **Evaporation Rate:** None/ Solid

Solubility in Water: Soluble at 37^{o} C **Appearance and Odor:** Clear and Odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: None **Extinguishing Media:** CO_2, Water

Special Firefighting Procedures: None **Unusual Fire and Explosion Hazards:** None

SECTION V - HEALTH HAZARD DATA

Health Hazards: None

SECTION VI - REACTIVITY DATA

Stability: Stable **Hazardous Polymerization:** Will not Occur

SECTION VII - SPILL OR LEAK PROCEDURES

Spill or Leak Procedure: N/A - material a solid **Waste Disposal Method:** Normal

SECTION VIII - SPECIAL PROTECTION INFORMATION

No special protection required.

SECTION IX - SPECIAL PRECAUTIONS

No special precautions other than stated on shipping label.

Home Capsules Pharma. Capsules Non-Pharma. Capsule Machines Bulletins & Size Charts Ordering E-Mail Search
Site Map Quick Tour Start Pre-Clinical Use

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