



# SAFETY DATA SHEET

## CONTINUUM\* AT3271

### 1. Identification

**Product identifier** CONTINUUM AT3271  
**Other means of identification** None.  
**Recommended use** Corrosion inhibitor  
**Recommended restrictions** None known.

#### Company/undertaking identification

SUEZ WTS USA, Inc.  
4636 Somerton Road  
Trevose, PA 19053  
T 215 355 3300, F 215 953 5524

#### Emergency telephone

(800) 877 1940

### 2. Hazard(s) identification

**Physical hazards** Not classified.  
**Health hazards** Serious eye damage/eye irritation Category 1  
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation  
**OSHA defined hazards** Not classified.

#### Label elements



**Signal word** Danger  
**Hazard statement** Causes serious eye damage. May cause respiratory irritation.

#### Precautionary statement

**Prevention** Use only outdoors or in a well-ventilated area. Avoid breathing mist or vapor. Wear eye protection/face protection.

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

**Storage** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal** Dispose of contents/container to an approved facility.

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

**Supplemental information** None.

### 3. Composition/information on ingredients

#### Mixtures

Components	CAS #	Percent
2-Phosphono-1,2,4 Butanetricarboxylic acid	37971-36-1	10 - 20

Components	CAS #	Percent
Benzotriazole	95-14-7	2.5 - 10
Phosphoric Acid	7664-38-2	2.5 - 10
Zinc sulphate	7733-02-0	2.5 - 10

**Composition comments** Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

#### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately contact a physician.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. 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.
<b>Methods and materials for containment and cleaning up</b>	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

#### 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not get this material in contact with eyes. Avoid breathing mist or vapor.
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Conditions for safe storage,  
including any incompatibilities

Store locked up. Store in original tightly closed container.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m3

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m3
	TWA	1 mg/m3

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
2-Phosphono-1,2,4 Butanetricarboxylic acid (CAS 37971-36-1)	TWA	10 mg/m3	Aerosol.

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Appropriate engineering controls

Provide eyewash station. 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.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Splash proof chemical goggles. Face shield.

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.

##### Other

Wear appropriate chemical resistant clothing.

#### Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### 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.

## 9. Physical and chemical properties

### Appearance

Color Light yellow

Physical state Liquid

Odor Slight

Odor threshold Not available.

pH (concentrated product) < 1

pH in aqueous solution 1.8 (5% SOL.)

Melting point/freezing point 28 °F (-2 °C)

Initial boiling point and boiling  
range 212 °F (100 °C)

Flash point Not applicable.

Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.16
Relative density temperature	70 °F (21 °C)
<b>Solubility(ies)</b>	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	6 cps
Viscosity temperature	70 °F (21 °C)
<b>Other information</b>	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Pour point	33 °F (1 °C)
Specific gravity	1.157
VOC	0 % (Estimated)

## 10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials. Avoid contact with strong bases.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of carbon evolved in fire.

## 11. Toxicological information

### Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
CONTINUUM AT3271 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	4566 mg/kg
Components	Species	Test Results
Benzotriazole (CAS 95-14-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	600 mg/kg
Phosphoric Acid (CAS 7664-38-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Oral</i>		
LD50	Rat	300 mg/kg
Zinc sulphate (CAS 7733-02-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	1710 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation** Causes serious eye damage.

**Respiratory or skin sensitization**

**Respiratory sensitization** This product is not expected to cause respiratory sensitization.

**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.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

### Ecotoxicity

Product	Species	Test Results	
CONTINUUM AT3271 (CAS Mixture)			
<b>Aquatic</b>			
Crustacea	LC50	Daphnia magna	85 mg/l, Acute Toxicity, 48 hour, (Estimated/pH adjusted)
Fish	LC50	Fathead Minnow	84 mg/l, Acute Toxicity, 96 hour, (Estimated/pH adjusted)

### Bioaccumulative potential

<b>Partition coefficient n-octanol / water (log Kow)</b>	
Benzotriazole	1.44

**Mobility in soil** No data available.

**Other adverse effects** Not available.

### Persistence and degradability

No data is available on the degradability of this product.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]  
D006: Waste Cadmium  
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** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s. (ZINC SULFATE), RQ(ZINC SULFATE)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Special precautions for user</b>	Not available.
<b>ERG number</b>	171

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

### IATA

Not regulated as dangerous goods.

### IMDG

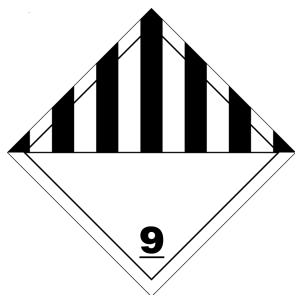
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC SULFATE), RQ(ZINC SULFATE)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-F

Special precautions for user Not available.

DOT



IMDG



## 15. Regulatory information

### 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)

Phosphoric Acid (CAS 7664-38-2)

Listed.

Zinc sulphate (CAS 7733-02-0)

Listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories**

Serious eye damage or eye irritation  
Specific target organ toxicity (single or repeated exposure)

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc sulphate	7733-02-0	2.5 - 10

### Other federal regulations

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

Acrylic acid (CAS 79-10-7)

Cadmium (CAS 7440-43-9)

LEAD (CAS 7439-92-1)

MANGANESE (CAS 7439-96-5)

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

Not regulated.

**Safe Drinking Water Act (SDWA)** 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)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

<b>NSF Registered and/or meets USDA (according to 1998 guidelines):</b>	Registration No. – 152034 G5 Cooling and retort water treatment products G7 Boiler, steam line treatment products – nonfood contact
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## US state regulations

### California Proposition 65



**WARNING:** WARNING: This product can expose you to chemicals including Cadmium, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cadmium (CAS 7440-43-9) Listed: October 1, 1987  
LEAD (CAS 7439-92-1) Listed: October 1, 1992

### US - California Proposition 65 - CRT: Listed date/Developmental toxin

Cadmium (CAS 7440-43-9) Listed: May 1, 1997  
LEAD (CAS 7439-92-1) Listed: February 27, 1987

### US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

LEAD (CAS 7439-92-1) Listed: February 27, 1987

### US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

Cadmium (CAS 7440-43-9) Listed: May 1, 1997  
LEAD (CAS 7439-92-1) Listed: February 27, 1987

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	Jul-13-2015
<b>Revision date</b>	Apr-10-2020
<b>Version #</b>	7.0
<b>NFPA ratings</b>	Health: 3 Flammability: 0 Instability: 0

## NFPA ratings



## List of abbreviations

CAS: Chemical Abstract Service Registration Number  
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.  
ACGIH: American Conference of Governmental Industrial Hygienists  
NOEL: No Observed Effect Level  
STEL: Short Term Exposure Limit  
LC50: Lethal Concentration, 50%  
TWA: Time Weighted Average  
BOD: Biochemical Oxygen Demand  
COD: Chemical Oxygen Demand  
TOC: Total Organic Carbon  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods Code  
LD50: Lethal Dose, 50%  
NFPA: National Fire Protection Association  
OSHA: Occupational Safety & Health Administration.

**References:** No data available

**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.



**Revision information**

Product and Company Identification: Product and Company Identification  
Hazard(s) identification: Response  
Exposure controls/personal protection: Appropriate engineering controls  
Toxicological Information: Toxicological Data  
Regulatory information: California Proposition 65  
Regulatory information: US state regulations  
Other information, including date of preparation or last revision: List of abbreviations  
GHS: Classification

**Prepared by**

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

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