

### SECTION 1: Identification

#### 1.1 Product identifier

**Trade name** Vitec™ 3000  
**CAS number** none

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

**Relevant identified uses** Water treatment chemical  
 RO Reverse Osmosis

#### 1.3 Details of the supplier of the safety data sheet

Avista Technologies, Inc.  
 140 Bosstick Blvd.  
 92069 San Marcos  
 United States

Telephone: +1 (760) 744 0536  
 e-mail: regulatory@avistatech.com  
 Website: AvistaMembraneSolutions.com

#### 1.4 Emergency telephone number

Emergency Number (USA, Canada): 1 (800) 424-9300 (ChemTrec)  
 Emergency Number (International): 1 (703) 527-3887 (International Collect)

#### 1.5 Registration



CERTIFIED BY NSF INTERNATIONAL TO NSF/ANSI 60 AS A STANDARD DRINKING WATER TREATMENT CHEMICAL FOR USE IN REVERSE OSMOSIS SYSTEMS AT A MAXIMUM LEVEL OF 7 mg/L

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Hazard class	Category	Hazard statement
skin corrosion/irritation	2	H315
serious eye damage/eye irritation	2A	H319

For full text of abbreviations: see SECTION 16.

#### 2.2 Label elements

**Signal word** warning

**Pictograms**  
 GHS07



### Hazard statements

- H315 Causes skin irritation.  
 H319 Causes serious eye irritation.

### Precautionary statements

- P280 Wear protective gloves.  
 P302+P352 If on skin: Wash with plenty of water.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362 Take off contaminated clothing and wash it before reuse.

## 2.3 Other hazards

### Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Mixtures

#### Hazardous ingredients

<i>Name of substance</i>	<i>Identifier</i>	<i>Wt%</i>	<i>Classification acc. to GHS</i>
Chelate Agent E	CAS No Proprietary  EC No Proprietary	10 – < 20	Skin Corr. 1 / H314 Eye Dam. 1 / H318 Met. Corr. 1 / H290
Deflocculant & Sequestrant	CAS No Proprietary  EC No Proprietary	5 – < 10	Skin Corr. 1C / H314 Eye Dam. 1 / H318 Met. Corr. 1 / H290
Water	7732-18-5	80 – < 90	Not established

For full text of abbreviations: see SECTION 16.

Specific chemical identity and concentration of some ingredients are protected as Trade Secret information.

HMIRA Registry Number: 3329893 Date filed: 5/10/2019.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

In case of respiratory tract irritation, consult a physician.

#### Following skin contact

Rinse skin with water/shower. Take off contaminated clothing. After contact with skin, wash immediately with plenty of water. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following eye contact**

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing.

**Following ingestion**

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

**4.2 Most important symptoms and effects, both acute and delayed**

Symptoms and effects are not known to date.

**4.3 Indication of any immediate medical attention and special treatment needed**

No specific antidote is known. Treatment of the symptoms.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Non-combustible. Coordinate firefighting measures to the fire surroundings. Water spray, Alcohol resistant foam, Fire extinguishing powder, Carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media**

None

**5.2 Special hazards arising from the substance or mixture**

none

**Hazardous combustion products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

**5.3 Advice for firefighters**

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**Special protective equipment for firefighters**

Use suitable breathing apparatus

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Aqueous solutions or powders that become wet produce extremely slippery conditions.

**For non-emergency personnel**

Follow emergency procedures such as the need to evacuate the danger area or to consult an expert. Remove persons to safety. Prevent skin contact. Avoid inhaling sprayed product. Aqueous solutions or powders that become wet produce extremely slippery conditions.

**For emergency responders**

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection. Aqueous solutions or powders that become wet produce extremely slippery conditions. Special danger of slipping by leaking/spilling product.

Suitable fabric for personal protective clothing

PE: polyethylene, NR: natural rubber, latex, CR: chloroprene (chlorobutadiene) rubber

## 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority. Disposal considerations: see section 13. Chemicals generally shouldn't reach surface water.

## 6.3 Methods and material for containment and cleaning up

### Advice on how to contain a spill

Covering of drains

### Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Material for neutralising like diluted acetic acid.

### Appropriate containment techniques

Neutralization techniques. Decontamination techniques. Use of adsorbent materials. Vacuuming techniques.

Equipment required for containment/clean-up

Approved industrial vacuum cleaner, Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.), Sweeping compounds (oil absorbing), Shovel, Drain seal, Collecting container, Protective gloves, Eye protection (e.g. protective goggles), Personal protective equipment: see section 8

### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

## 6.4 Reference to other sections

Section 7: Handling and storage. See also to sections 8 and 13 of the safety data sheet.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Recommendations

#### Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

#### Handling of incompatible substances or mixtures

Do not mix with acids. Do not mix with other chemicals.

#### Keep away from

Strong oxidizers, Other chemicals

#### Measures to protect the environment

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

#### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Consideration of other advice

Store between 5°C and 40°C. Avoid freezing.

**Specific designs for storage rooms or vessels**

No special measures are necessary. Keep container tightly closed.

**Packaging compatibilities**

Keep only in original container.

**7.3 Specific end use(s)**

Water treatment chemical. RO Reverse Osmosis.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****National limit values****Occupational Exposure Limits: PELs, TLVs, etc**

These information are not available.

**8.2 Exposure controls****Appropriate engineering controls**

General ventilation.

**Individual protection measures (personal protective equipment)**

Guarantee that the eye flushing systems and safety showers are closely located to the working place.

**Eye/face protection**

Wear eye/face protection.

**Skin protection**

Chemical resistant protective clothing.

**Hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. In case of spray contact at least protection index 2 recommended, according to more than 30 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.4 mm

In case of prolonged and intensive contact protection index 6 recommended, according to more than 480 min. penetration time (EN 374).

Layer thickness of gloves at least: 0.7 mm.

**Type of material**

PVC: polyvinyl chloride, PE: polyethylene, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber

**Breakthrough times of the glove material**

Breakthrough times and swelling properties of the material must be taken into consideration

**Other protection measures**

Wash hands thoroughly after handling.

**Respiratory protection**

Not necessary under normal conditions and provided good general ventilation. In case of inadequate ventilation wear respiratory protection. Type : E (against acidic gases like sulfur dioxide or hydrogen chloride, color code: Yellow).

**Environmental exposure controls**

Disposal considerations: see section 13.

**SECTION 9: Physical and chemical properties**
**9.1 Information on basic physical and chemical properties**
**Appearance**

Physical state	liquid
Color	clear to amber liquid
Odor	characteristic
Odor threshold	no data available

**Other safety parameters**

pH (value)	ca. 10.7 – 11.8 (25 °C)
Melting point/freezing point	not determined
Initial boiling point and boiling range	ca. >100 °C at 1 atm
Flash point	not applicable
Evaporation rate	not determined
Flammability (solid, gas)	not applicable
Upper/lower flammability or explosive limits	not determined
Vapor pressure	ca. 18 – 21 mmHg at 20 °C
Vapor density	this information is not available
Density	not determined
Relative density	1.2 – 1.3 at 20 °C (water = 1)

**Solubility(ies)**

<b>Water solubility</b>	miscible in any proportion
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**Partition coefficient**

-n-Octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined not applicable
Decomposition temperature	not determined
Viscosity	not determined
Explosive properties	none

Oxidizing properties	none
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## 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with Acids.

### 10.4 Conditions to avoid

Incompatible materials.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**SECTION 12: Ecological information**
**12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)			
<i>Endpoint</i>	<i>Value</i>	<i>Species</i>	<i>Exposure time</i>
LC50	>1,000 mg/l	marine fish	96 h
LC50	>1,000 mg/l	rainbow trout	96 h
LC50	180 mg/l	not specified	48 h
EC50	>1,000 mg/l	daphnia magna	48 h

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Not applicable.

**12.6 Other adverse effects**

Data are not available.

**Remarks**

Do not empty into drains or surface water.



**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point. Dispose of waste according to applicable legislation.

**Waste treatment of containers/packages**

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Avoid release to the environment.

**SECTION 14: Transport information**

<b>14.1 UN number</b>	<b>not subject to transport regulations</b>
<b>14.2 UN proper shipping name</b>	not relevant
<b>Technical name</b> (hazardous ingredients)	contains:
<b>14.3 Transport hazard class(es)</b>	
<b>Class</b>	-
<b>14.4 Packing group</b>	not relevant
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	
The cargo is not intended to be carried in bulk.	

**Information for each of the UN Model Regulations****Transport of dangerous goods by road or rail (49 CFR US DOT)**

Not subject to transport regulations.

**International Maritime Dangerous Goods Code (IMDG)**

Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR)**

Not subject to ICAO-IATA.

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations specific for the product in question

##### National regulations (United States)

**Toxic Substance Control Act (TSCA)** all ingredients are listed or exempt from listing

**Superfund Amendment and Reauthorization Act (SARA TITLE III )**

**The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**

none of the ingredients are listed

**Specific Toxic Chemical Listings (EPCRA Section 313)**

none of the ingredients are listed

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

**List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)**

none of the ingredients are listed

Clean Air Act

none of the ingredients are listed

New Jersey Worker and Community Right to Know Act

none of the ingredients are listed

**California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987**

none of the ingredients are listed

##### Industry or sector specific available guidance(s)

##### NPCA-HMIS® III

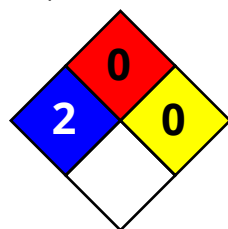
Hazardous Materials Identification System. American Coatings Association.

HEALTH	/	2
FLAMMABILITY		0
PHYSICAL HAZARD		0
PERSONAL PROTECTION		C

"\*" On health line indicates a chronic health hazard is present.

##### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).



### Additional information

Substance is listed in the following national inventories:

The contained substances are listed in the following national inventories:

AICS (Australia)  
 ASIA-PAC (Asia-Pacific Region)  
 DSL (Canada)  
 NDSL (Canada)  
 DSL/NDSL (Canada)  
 IECS (China)  
 EINECS/ELINCS/NLP (Europe)  
 EINECS (European Union)  
 REACH (Europe)  
 ENCS, class 1 and 2 (MITI-inventory, Japan)  
 CSCL-ENCS (Japan)  
 ISHA-ENCS (Japan)  
 KECL (Republic of Korea)  
 INSQ (Mexico)  
 NZIoC (New Zealand)  
 PICCS (Philippines)  
 CICR (Turkey)  
 TCSI (Taiwan)  
 TSCA (United States)

### 15.2 Chemical Safety Assessment

Chemical Safety Assessment: No.

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

### Abbreviations and acronyms

<i>Abbr.</i>	<i>Descriptions of used abbreviations</i>
49 CFR US DOT	49 CFR U.S. Department of Transportation
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code

<i>Abbr.</i>	<i>Descriptions of used abbreviations</i>
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

ECHA: European Chemicals Agency, <http://echa.europa.eu/>.

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

<i>Code</i>	<i>Text</i>
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.