

**Vitec 1135**

article number: 48049B

Avista™ | dispersing agent, Reverse Osmosis Antiscalant

Version number: Vers. 4.0  
Replaces version of: 13.02.2024 (Vers. 3)

Revision: 30.07.2024

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

<b>Trade name</b>	<b>Vitec 1135</b>
<b>Article number</b>	<b>48049B</b>
<b>Identifiers (European Union)</b>	
<b>Registration number (REACH)</b>	not relevant (mixture)

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

<b>Relevant identified uses</b>	Water treatment chemical Industrial uses
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### 1.3 Details of the supplier of the safety data sheet

Kurita Europe GmbH  
Theodor-Heuss-Anlage 2  
DE-68165 Mannheim  
Germany  
Telephone: + 49 621 1218-3000  
e-mail: KEG\_PS@kurita-water.com  
Website: www.kurita.eu

#### Distributor

Acqua Brevetti S.r.l.  
Via Molveno, 8  
35035 Mestrino (PD)  
Italia  
Tel: +39 049 897 4006  
Fax: +39 049 897 8649  
e-mail: info@acquabrevetti.it

### 1.4 Emergency telephone number

Emergency CONTACT (24-Hour-Number):  
Europe: GBK GmbH +49 (0)6132-84463  
International: GBK/Infotrac ID 108808: (001) 352 323 3500  
Assistance in mother tongue.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 (CLP)

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0,1\%$ .

#### Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

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## 3.2 Mixtures

### Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
2-phosphonobutane-1,2,4-tricarboxylic acid	CAS No 37971-36-1  EC No 253-733-5  REACH Reg. No 01-2119436643-39- xxxx	1 – < 5	Met. Corr. 1 / H290 Eye Irrit. 2 / H319	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
2-phosphonobutane-1,2,4-tricarboxylic acid	-	-	>5 mg/l/4h	inhalation: dust/mist

### Remarks

For full text of abbreviations: see SECTION 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

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

#### Following ingestion

Rinse mouth. Do not induce vomiting.

### 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.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

Water jet

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

none

#### 5.3 Advice for firefighters

Non-combustible. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. 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.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

##### For non-emergency personnel

Remove persons to safety.

##### For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

#### 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: sawdust, kieselgur (diatomite), sand, universal binder

##### Appropriate containment techniques

Use of adsorbent materials.

##### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## 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. Use only in well-ventilated areas.

#### 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

Do not store together with: Alkalis.

### 7.3 Specific end use(s)

Water treatment chemical. Industrial uses.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values (Workplace Exposure Limits)

this information is not available

Relevant PNECs of components					
<i>Name of substance</i>	<i>CAS No</i>	<i>End-point</i>	<i>Threshold level</i>	<i>Environmental compartment</i>	<i>Source</i>
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	0.666 mg/l	freshwater	ECHA
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	0.066 mg/l	marine water	ECHA
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	50.4 mg/l	sewage treatment plant (STP)	ECHA
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	2.398 mg/kg	freshwater sediment	ECHA
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	0.24 mg/kg	marine sediment	ECHA
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	PNEC	0.089 mg/kg	soil	ECHA

### 8.2 Exposure controls

#### Appropriate engineering controls

General ventilation.

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

##### Eye/face protection

Wear eye/face protection.

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### Skin protection

#### 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, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber, IIR: isobutene-isoprene (butyl) rubber, FKM: fluoro-elastomer

#### Breakthrough times of the glove material

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

#### Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Body protection

Wear suitable working clothes.

#### Respiratory protection

Not necessary under normal conditions and provided good general ventilation.

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless - light yellow
Odour	characteristic
Melting point/freezing point	<0 °C
Boiling point or initial boiling point and boiling range	>100 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	>150 °C
Auto-ignition temperature	not determined
Decomposition temperature	no data available
pH (value)	3.2

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<b>Kinematic viscosity</b>	not determined
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**Solubility(ies)**

Water solubility	miscible in any proportion
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**Partition coefficient**

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapour pressure	23 hPa at 20 °C
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**Density and/or relative density**

Density	1.02 g/cm <sup>3</sup>
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Relative vapour density	information on this property is not available
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Particle characteristics	not relevant (liquid)
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**9.2 Other information**

**Information with regard to physical hazard classes**

hazard classes acc. to GHS (physical hazards): not relevant

Flammable liquids

<b>Sustained combustibility</b>	NO (no sustained combustion was observed)
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Corrosive to metals	non-corrosive to metals
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**Other safety characteristics**

Miscibility	Completely miscible with water.
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**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**

No known hazardous reactions.

**10.4 Conditions to avoid**

There are no specific conditions known which have to be avoided.

**10.5 Incompatible materials**

Bases

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**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 hazard classes as defined in Regulation (EC) No 1272/2008**

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).

**Classification according to GHS (1272/2008/EC, CLP)**

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC.

**Acute toxicity**

Shall not be classified as acutely toxic.

Acute toxicity estimate (ATE) of components			
<i>Name of substance</i>	<i>CAS No</i>	<i>Exposure route</i>	<i>ATE</i>
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	inhalation: dust/mist	>5 mg <sub>I</sub> /4h

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**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.

**11.2 Information on other hazards**

There is no additional information.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

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**SECTION 12: Ecological information**

**12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components						
Name of substance	CAS No	Endpoint	Value	Species	Source	Exposure time
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	LC50	>1,042 mg/l	fish	ECHA	96 h
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	ErC50	>1,081 mg/l	algae	ECHA	72 h
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	EC50	140 mg/l	algae	ECHA	72 h

Aquatic toxicity (chronic) of components of the mixture						
Name of substance	CAS No	Endpoint	Value	Species	Source	Exposure time
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	LC50	>1,042 mg/l	fish	ECHA	14 d
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	EC50	>1,071 mg/l	aquatic invertebrates	ECHA	21 d
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	NOEC	≥1,042 mg/l	fish	ECHA	14 d
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	LOEC	329 mg/l	aquatic invertebrates	ECHA	21 d
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	growth (EbCx) 10%	>504 mg/l	microorganisms	ECHA	3 h

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Accumulation in organisms is not to be expected. .

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
2-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1		-1.66	

**12.4 Mobility in soil**

Data are not available.

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### 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0,1\%$ .

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

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.

## SECTION 14: Transport information

14.1 UN number or ID number	not subject to transport regulations
14.2 UN proper shipping name	not relevant
14.3 Transport hazard class(es)	none
14.4 Packing group	not assigned
14.5 Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user	There is no additional information.
14.7 Maritime transport in bulk according to IMO instruments	The cargo is not intended to be carried in bulk.

### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) Additional information

Not subject to ADR, RID and ADN.

#### International Maritime Dangerous Goods Code (IMDG) Additional information

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

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

**Relevant provisions of the European Union (EU)**

**Restrictions according to REACH, Annex XVII**

none of the ingredients are listed

**List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list**

none of the ingredients are listed

**Seveso Directive**

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

**Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)**

none of the ingredients are listed

**Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

none of the ingredients are listed

**Water Framework Directive (WFD)**

none of the ingredients are listed

**Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013**

none of the ingredients are listed

**Regulation on drug precursors**

none of the ingredients are listed

**Regulation on persistent organic pollutants (POP)**

none of the ingredients are listed

### 15.2 Chemical safety assessment

Chemical Safety Assessment: No

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)
5.3	<p align="center">Advice for firefighters:</p> <p>In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. 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.</p>	<p align="center">Advice for firefighters:</p> <p>Non-combustible. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. 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.</p>

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### Abbreviations and acronyms

<i>Abbr.</i>	<i>Descriptions of used abbreviations</i>
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
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)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
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
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
Met. Corr.	Substance or mixture corrosive to metals
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

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<i>Abbr.</i>	<i>Descriptions of used abbreviations</i>
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.  
Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU. ECHA: European Chemicals Agency, <http://echa.europa.eu/>.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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 section 2 and 3)

<i>Code</i>	<i>Text</i>
H290	May be corrosive to metals.
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.