SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier:

Identification as on the label/Trade name: C20VC

Additional information:

Relevant identification uses of the substance and uses advised against:

Identified uses: Electricity, steam, gas water supply and sewage treatment.

Uses advised against: The product is intended exclusively for industrial and professional use. Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Details of the supplier of the Safety Data Sheet:

Arch Water Products South Africa (Pty) Ltd.
(Reg. No. 1972/014058/07)
P O Box 150, Kempton Park, 1620
Situated At: NCP Chloorkop Factory Site
Hytor Street
Chloorkop
Kempton Park, 1619

Emergency telephone numbers:

Poisons Information Centre: 0861 555 777 (24 hours)
+27 11 976 2115 (office hours only).

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substances or mixture:

The mixture is classified according to:

<table>
<thead>
<tr>
<th>Hazard classes/Hazard categories</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irritation (Category 2)</td>
<td>H315</td>
</tr>
<tr>
<td>Skin Sensitisation (Category 1)</td>
<td>H317</td>
</tr>
<tr>
<td>Serious Eye Damage (Category 1)</td>
<td>H318</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
<td>H412</td>
</tr>
</tbody>
</table>
For full text of H-Statements see section 16

The most important adverse effects:

The most important adverse physiochemical effects: None.

The most important adverse human health effects: Causes skin irritation and may cause skin allergies. Causes serious eye damage.

Label elements:

Hazard pictograms:

Signal Words: DANGER

Hazard Statements: H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H412 Harmful to aquatic life with long lasting effects.


Special labelling of certain mixtures: None known.

Other hazards: None known.
SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

<table>
<thead>
<tr>
<th>Substance name (IUPAC)</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
<th>Classification EC1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxyphosphonoacetic acid trisodium salt</td>
<td>78620-07-02</td>
<td>&gt;2.5-≤10%</td>
<td>Acute Toxicity oral (Category 4) H302. Skin sensitization (Category 1) H317.</td>
</tr>
<tr>
<td>Tetrasodium (1-hydroxyethylidene) bisphosphonate,</td>
<td>3794-83-0</td>
<td>&gt;10-≤25%</td>
<td>Acute Toxicity oral (Category 4) H302. Eye Irritant (Category 2) H319.</td>
</tr>
<tr>
<td>Sodium 4(or 5) – methyl-1H-benzotriazolide</td>
<td>64665-57-2, 265-004-9</td>
<td>&gt;2.5-5%</td>
<td>Acute Toxicity oral (Category 4) H302. Skin Corrosion (Category 1B) H314. Aquatic Chronic 2 H411.</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available listed in Section 8.
For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of discomfort seek medical attention.

In case of skin contact: Wash off with soap and plenty of water for at least 15 minutes. In case of discomfort seek medical attention.

In case of eye contact: Flush eyes thoroughly with water for 15 minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing. Seek medical attention immediately.

In case of ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.

Most important symptoms and effects, both acute and delayed:

Inhalation: May cause irritation.

Ingestion: May be harmful if swallowed.

Skin Contact: Irritation may occur or an allergic skin reaction.

Eye Contact: Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns.

Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.
SECTION 5. FIREFIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: CO₂, powder or water spray. Fight fires with water spray or alcohol resistant foam.

Unsuitable extinguishing media: None known.

Special hazards arising from the mixture:

During heating or in case of fire poisonous gases are produced.

Advice for fire-fighters:

Evacuate area and contact emergency services. Do not inhale explosive gases or combustion gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Avoid inhalation, and contact with skin. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

For emergency responders: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Avoid inhalation, and contact with skin. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions:

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

Methods for containment and cleaning up:

For small spills: Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

For large spills: Contain area to prevent spill from spreading. Minimize adverse effects on the environment. Sweep up and shovel, recover as much as possible of the pure product into appropriate containers. Later, determine if this recovered product can be used for its intended purpose.

Reference to other sections:

See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

Additional information:
None known.

SECTION 7. HANDLING AND STORAGE
Precautions for safe handling:
Ensure good ventilation at the workplace. Prevent formation of dust. Avoid direct contact (skin/eye, ingestion and/or inhalation of fume/mist/dust) with the product. Safety showers and eye wash facilities should be available at the work area.

Protective measures: Observe directions on label and instructions for use. Avoid contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed.

Advice on general occupational hygiene: Do not smoke. Do not eat drink or smoke when handling this product.

Conditions for safe storage, including incompatibilities:
Store in original container prevent seepage into the ground. Keep container tightly closed in a dry and well-ventilated place. Store away from oxidising agents and foodstuffs. Do not store in aluminium, copper or zinc containers.

Specific end uses:
Use only as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Control parameters:
The product does not contain relevant quantities of ingredients that require monitoring.

Occupational exposure limits: No data available.

Biological exposure indices (BEI): No data available.

Additional exposure limits under the conditions of use: No data available.

Exposure control:

Appropriate engineering controls: Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Use tight fitting goggles.
Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include: Butyl rubber, Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, polyvinyl alcohol, Polyvinyl chloride.

Body protection: Impervious protective clothing.

Respiratory protection: Not necessary if room/area is well ventilated, if insufficient ventilation respiratory protection should be worn and if there is a potential to exceed the exposure limit requirements or guidelines. If respiratory equipment is required, institute a complete respiratory protection program including selection, fit, testing/air monitoring, maintenance and inspection.

Environmental exposure controls: None required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties

Appearance (form): Solid.

Colour: Various colours.

Odour: Mild.

Odour threshold: Not known.

pH: 7-8 (10 g/L).

Melting point/range (°C): Not known.

Boiling point/range (°C): Not known.

Flash point (°C): >93 °C

Evaporation rate: Not known.

Flammability (solid, gas): Not known.

Ignition temperature (°C): >250 °C

Upper/lower flammability/explosive limits: Not known.

Vapour pressure (20°C): Not known.

Vapour density: Not known.

Specific gravity at 20°C: Not known.

Relative density (25°C): Not known.

Water solubility (g/l) at 20°C: Soluble.

n-Octanol/ Water partition coefficient: Not known.

Auto-ignition temperature: Not known.
Decomposition temperature: Not known.

Viscosity, dynamic (mPa s): Not known.

Physical hazards:
None.

Other information:

Fat solubility (solvent-oil to be specified): Not known.

Bulk density: Not known.

Dissociation constant in water (p Ka): Not known.

Oxidation-reduction potential: Not known.

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SECTION 10. STABILITY AND REACTIVITY

Reactivity:

Product is not sensitive to mechanical shock or impact.

Chemical stability:

Stable under recommended conditions of storage. Product will not undergo hazardous polymerization.

Possibility of hazardous reactions:

Hazardous polymerization is not expected to occur.

Conditions to avoid:

Do not store next to heat source, in direct sunlight, or elevated storage temperature. Do not store where the daily average temperature exceeds 35°C / 95°F.

Incompatible materials:

Strong oxidizing agents, reducing agents and strong acids.

Hazardous decomposition products:

Phosphorous compounds, nitrogen oxides (NOx), carbon monoxide, carbon dioxide and metal oxides.

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SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: No data available.

Method: No data available.
Dosage: No data available.
Routes of administration: No data available.
Results: No data available.
Absorption: No data available.
Distribution: No data available.
Metabolism: No data available.
Excretion: No data available.

Information on toxicological effects:

Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: Based on available data, the classification criteria are not met.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:
Harmful to fish.

Persistence and degradability:
The organic portion of the product is biodegradable.

Bioaccumulative potential:
Product is not expected to bioaccumulate.

Mobility in soil
No data available.

Results of PBT& vPvB assessment:
Not applicable.

**Other adverse effects:**

No data available.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods:**

Dispose of in accordance with municipal, provincial and national regulations.

**Product/packaging disposal:**

Recycle where possible.

### SECTION 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>Land transport (ADR/RID)</th>
<th>Sea transport (IMDG)</th>
<th>Air transport (ICAO/IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>Not required</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>UN Proper shipping name:</td>
<td>Not required</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>Transport hazard class:</td>
<td>Not required</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>Packaging group:</td>
<td>Not required</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for user:</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Transport in bulk according to MARPOL 73/78 Annex II and the IBC code</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### SECTION 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation for the mixture:**

**Relevant information regarding authorization:** Occupational Health and Safety Act 1993 Regulation for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None known.

**EU regulations:** Regulation EC 1272/2008 [EU-GHS/CLP]

**Other National regulations:** None.

**Chemical Safety Assessment carried out?** No.

### SECTION 16. OTHER INFORMATION

**Indication of changes:**
GHS aligned.

**Relevant classification and H statements (number and full text):**

Aquatic chronic 2- Hazardous to the aquatic environment (Chronic 2).

Aquatic chronic 3- Hazardous to the aquatic environment (Chronic 3)

H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 Causes serious eye irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

**Training instructions:**

Use as instructed.

**Further information:**

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

**Notice to readers:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.