SAFETY DATA SHEET
BELLACIDE 300

1. IDENTIFICATION

Product Name
BELLACIDE 300

Chemical Name
Contains tributyltetradeylphosphonium chloride.

Product No.
101462

Identification No.
3082

Identified uses
Biocides for water treatment.

Supplier
BWA Water Additives US LLC
1979 Lakeside Parkway
Suite 925, Tucker, GA30084
USA
T: +1 800 600 4523
T: +1 678 802 3050
E: msds@wateradditives.com

Emergency Telephone
Chemtrec Phone: 1-800-424-9300

2. HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW

EPA REGISTRATION No. 83451-22 EPA SIGNAL WORD: DANGER. EPA FIFRA Labelling information in Section 15 (PRN 2012-1)

Appearance
Clear liquid.

Color
Colourless.

Odor
Slight odor.

GHS Pictogram

Signal Word
Danger

Hazard Statements
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container in accordance with national regulations.

GHS Classification
Physical and Chemical Hazards
Not classified.

Human health
Acute Tox. 4 - H332; Eye Dam. 1 - H318; Skin Sens. 1 - H317

Environment
Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410
BELLACIDE 300

Inhalation
Harmful by inhalation.

Ingestion
May cause discomfort if swallowed.

Skin Contact
Non Irritant. May cause sensitization by skin contact.

Eye Contact
Irritation, burning, lachrymation, blurred vision after liquid splash.

Route Of Entry
Inhalation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly[oxyethylene(dimethyliminio)ethylene(dimethyliminio)ethylenedichloride]</td>
<td>2.22%</td>
</tr>
<tr>
<td>TRIBUTYLTETRADECYL PHOSPHONIUM CHLORIDE</td>
<td>2.78%</td>
</tr>
</tbody>
</table>

CAS No.: 31512-74-0
EC No.: |

GHS Classification
Acute Tox. 4 - H332; Skin Irrit. 2 - H315; Eye Irrit. 2 - H319; Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

CAS No.: 81741-28-8
EC No.: 279-808-2

GHS Classification
Acute Tox. 4 - H302; Acute Tox. 2 - H330; Skin Corr. 1B - H314; Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

Composition Comments
Aqueous solution of TTPC and WSCP

4. FIRST-AID MEASURES

Description of first aid measures

Inhalation
Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. For breathing difficulties oxygen may be necessary. Get medical attention.

Ingestion
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Rinse mouth thoroughly. Get medical attention immediately!

Skin Contact
Immediately remove contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

Eye Contact
Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention immediately. Continue to rinse.

Most important symptoms and effects, both acute and delayed

Inhalation
Congestion of the lungs may occur producing severe shortness of breath.

Ingestion
May cause chemical burns in mouth and throat. Nausea, vomiting.

Skin Contact
Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Eye Contact
May cause blurred vision and serious eye damage.

Indication of any immediate medical attention and special treatment needed
Notes To The Physician
Probable mucosal damage may contraindicate the use of gastric lavage.

## 5. FIRE-FIGHTING MEASURES

**Auto Ignition Temperature (°C)**
Not available.

**Flammability Limit - Lower(%)**
Not available.

**Flammability Limit - Upper(%)**
Not available.

**Flash point (°C)**
Not available.

**Extinguishing Media**
This product is not flammable. Use: Water spray, fog or mist. Foam, carbon dioxide or dry powder.

**Unusual Fire & Explosion Hazards**
No unusual fire or explosion hazards noted.

**Specific Hazards**

**Special Fire Fighting Procedures**
Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Keep run-off water out of sewers and water sources. Dike for water control.

**Protective Equipment For Fire-Fighters**
Self contained breathing apparatus and full protective clothing must be worn in case of fire. Leave danger zone immediately.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**
Follow precautions for safe handling described in this material safety data sheet. For personal protection, see section 8.

**Environmental Precautions**
Avoid release to the environment. To prevent release, place container with damaged side up.

**Spill Clean Up Methods**
Should be prevented from entering drains. Absorb in vermiculite, dry sand or earth and place into containers. Collect and reclaim or dispose in sealed containers in licensed waste. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Product is toxic to aquatic organisms. Minimise/prevent product from entering drains or water courses.

**Reference to other sections**
For waste disposal, see section 13.

## 7. HANDLING AND STORAGE

**Handling**
Avoid spilling, skin and eye contact. Avoid forming spray/aerosol mists. Observe good chemical hygiene practices.

**Storage**
Store in tightly closed original container in a dry, cool and well-ventilated place. Store at temperature below 50°C. Do not store for extended periods below freezing point or in direct sunlight. IF FROZEN: once fully thawed, agitate container vigorously to ensure the product is homogeneous. Keep separate from food, feedstuffs, fertilizers and other sensitive material.

**Storage Class**
Miscellaneous hazardous material storage.

**Specific end use(s)**
The identified uses for this product are detailed in Section 1.2.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredient Comments**
No exposure limits noted for ingredient(s).

**Protective Equipment**
Process Conditions
Provide eyewash, quick drench.

Engineering Measures
Provide sufficient ventilation during operations which cause vapor formation.

Respiratory Equipment
If exposure to spray, mist or vapours is possible wear respirator face mask with appropriate cartridge. A respiratory protection programme that meets OSHA 1910.134 and ANZI Z88.2 requirements must be followed whenever work place conditions warrant a respirator's use.

Hand Protection
Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC. Selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Eye Protection
Wear approved safety goggles. Use face shield in case of splash risk.

Other Protection
Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene Measures
No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

Skin Protection
Wear apron or protective clothing in case of contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight odor.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.985 - 1.005 20°C</td>
</tr>
<tr>
<td>Vapor density (air=1)</td>
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</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
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<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
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<tr>
<td>Viscosity</td>
<td>1.40 - 1.60 cSt 20°C</td>
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<tr>
<td>Decomposition temperature (°C)</td>
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<tr>
<td>Odour Threshold, Lower</td>
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</tr>
<tr>
<td>Odour Threshold, Upper</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto Ignition Temperature (°C)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability Limit - Lower(%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability Limit - Upper(%)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
BELLACIDE 300

Partition Coefficient (N-Octanol/Water)
Not available.

Explosive properties
Scientifically unjustified.

Oxidising properties
Does not meet the criteria for oxidising.
Not available.

10. STABILITY AND REACTIVITY

Reactivity
No specific reactivity hazards associated with this product.

Stability
Stable under normal temperature conditions and recommended use.

Hazardous Polymerisation
Will not polymerise.

Conditions To Avoid
Avoid excessive heat for prolonged periods of time.

Materials To Avoid
Strong acids. Strong alkalis.

Hazardous Decomposition Products

11. TOXICOLOGICAL INFORMATION

Acute toxicity:
Acute Toxicity (Oral LD50)
> 2000 mg/kg Rat

Acute Toxicity (Dermal LD50)
> 2000 mg/kg Rat

Acute Toxicity (Inhalation LC50)
1.55 mg/l (dust/mist) Rat

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product contains substances which are toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

Acute Toxicity - Fish
Not available.

Acute Toxicity - Aquatic Invertebrates
Not available.

Acute Toxicity - Aquatic Plants
Not available.

Degradability
There are no data on the degradability of this product.

Bioaccumulative potential
The product does not contain any substances expected to be bio-accumulating.

Partition coefficient
Not available.

Mobility:
The product is miscible with water. May spread in water systems.

Results of PBT and vPvB assessment
Not Classified as PBT/vPvB by current EU criteria.

Other adverse effects
Not available.

13. DISPOSAL CONSIDERATIONS
Waste Management
When handling waste, consideration should be made to the safety precautions applying to handling of the product.

Disposal Methods
Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point.
Liquid material should be incinerated. Material absorbed onto sand or earth should be disposed of as solid waste in accordance with local regulations. Empty packaging may contain product residues and due consideration should be given prior to disposal.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN No. (DOT/TDG)</td>
<td>3082</td>
</tr>
<tr>
<td>UN No. (IMDG)</td>
<td>3082</td>
</tr>
<tr>
<td>UN No. (ICAO)</td>
<td>3082</td>
</tr>
<tr>
<td>DOT Proper Shipping Name</td>
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<tr>
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<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Contains tributyltetradecylphosphonium chloride)</td>
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<tr>
<td>DOT Hazard Label Class</td>
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<tr>
<td>TDG Class</td>
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<tr>
<td>TDG Label(s)</td>
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</tr>
<tr>
<td>IMDG Class</td>
<td>9</td>
</tr>
<tr>
<td>ICAO Class</td>
<td>9</td>
</tr>
<tr>
<td>Transport Labels</td>
<td></td>
</tr>
</tbody>
</table>

DOT Pack Group                          III
TDG Pack Group                          III
IMDG Pack Group                         III
Air Pack Group                          III

Environmentally Hazardous Substance/Marine Pollutant

EMS                                      F-A, S-B
Markings                                MARINE POLLUTANT
Packaging Instructions                  155, 213, 240
Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes
Not applicable.
Classification Code (Adr)               M6

15. REGULATORY INFORMATION
BELLACIDE 300

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
None of the ingredients are listed.

SARA 313 Emission Reporting
None of the ingredients are listed.

CAA Accidental Release Prevention
None of the ingredients are listed.

FDA – Essential Chemical
None of the ingredients are listed.

FDA – Precursor Chemical
None of the ingredients are listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed.

California Air Toxics “Hot Spots” (A-I)
None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed.

Massachusetts "Right To Know" List
None of the ingredients are listed.

Rhode Island "Right To Know" List
None of the ingredients are listed.

Minnesota "Right To Know" List
None of the ingredients are listed.

New Jersey "Right To Know" List
None of the ingredients are listed.

Pennsylvania "Right To Know" List
None of the ingredients are listed.

Fifra Information
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER.
Corrosive.
Causes irreversible eye damage.
Harmful if swallowed or absorbed through the skin or inhaled.

International Inventories

EU - EINECS/ELINCS
All ingredients are listed or exempt.

Canada – DSL/NDSL
All ingredients are listed or exempt.

US - TSCA
All ingredients are listed or exempt.

US – TSCA 12(b) Export Notification
None of the ingredients are listed.

Australia - AICS
All ingredients are listed or exempt.

Japan – MITI
The following ingredients are listed.
Poly[oxylethylene(dimethyliminio)ethylene(dimethyliminio)ethylene(dichloride)]

Korea - KECI
All ingredients are listed or exempt.

China - IECSC
All ingredients are listed or exempt.
Hazardous Material Information System (HMIS)

HEALTH 2
FLAMMABILITY 0
PHYSICAL 0
PERSONAL PROTECTION D

National Fire Protection Association (NFPA)

General Information
For advice on chemical emergencies, spillages, fires or first aid in relation to this product please contact the relevant emergency number below:
EU/English Speakers - +44 (0) 1235 239 670 (NCEC)
Arabic Speakers - +44 (0) 1235 239 671
Asia/Pacific countries - +65 3158 1074
For emergencies within China - +86 10 5100 3039

Revision Comments
Section 9
Issued By BWA Water Additives Regulatory Group, +44(0)1618646699
Revision Date 2nd March, 2015
Revision 2
Sds No. 11572

Disclaimer
For safety reasons it is IMPERATIVE that customers:

1. Ensure that all those within their control who use the products are supplied with all relevant information contained within the Safety Data Sheet and Technical Bulletin concerning the applications for which the product is designed and any instructions and warnings contained therein.

2. Consult BWA Water Additives before using or supplying the product for any other applications. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.