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**SAFETY DATA SHEET**  
**BELLACIDE 355**

**1. Identification**

Product identifier

**Product name** BELLACIDE 355  
**Chemical name** Aqueous solution of tributyl tetradecyl phosphonium chloride.  
**Product number** 100736,100737,100833  
**Product Registration No.** EPA Reg. No. 83451-16

Recommended use of the chemical and restrictions on use

**Application** Industrial Water Treatment

Details of the supplier of the safety data sheet

**Supplier** ChemWorld.com  
3939 Royal Drive, Suite 139, Kennesaw, GA, 30144  
Phone: (800) 658-7716, (770) 331-5429  
Fax: (877) 209-1556  
**Emergency telephone number** ChemTel: 1 (800) 255-3924

**Emergency telephone**

**2. Hazard(s) identification**

Classification of the substance or mixture

**Physical hazards** Not Classified  
**Health hazards** Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318  
**Environmental hazards** Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Label elements

**Pictogram**



**Signal word** Danger

**Hazard statements** H314 Causes severe skin burns and eye damage.  
H331 Toxic if inhaled.  
H410 Very toxic to aquatic life with long lasting effects.

## BELLACIDE 355

<b>Precautionary statements</b>	<p>P260 Do not breathe vapor/spray.</p> <p>P261 Avoid breathing vapor/spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.</p> <p>P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a poison center/doctor.</p> <p>P311 Call a poison center/doctor.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P391 Collect spillage.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>
<b>Contains</b>	TRIBUTYLTETRADECYL PHOSPHONIUM CHLORIDE
<b>WHMIS Label</b>	D1 Materials Causing Immediate and Serious Toxic Effect. E Corrosive Material.

### 3. Composition/information on ingredients

#### Mixtures

<b>TRIBUTYLTETRADECYL PHOSPHONIUM CHLORIDE</b>	<b>5.0%</b>
CAS number: 81741-28-8	
M factor (Acute) = 10	M factor (Chronic) = 10
<b>Classification</b> Acute Tox. 4 - H302 Acute Tox. 2 - H330 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The Full Text for all Hazard Statements are Displayed in Section 16.

**Composition comments**      Aqueous solution of tributyltetradecylphosphonium chloride.

### 4. First-aid measures

#### Description of first aid measures

<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.

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<b>Skin Contact</b>	Remove affected person from source of contamination. Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Remove affected person from source of contamination. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

### Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	Severe irritation of nose and throat. Congestion of the lungs may occur, producing severe shortness of breath.
<b>Ingestion</b>	May cause chemical burns in mouth and throat. May cause stomach pain or vomiting.
<b>Skin contact</b>	Chemical burns.
<b>Eye contact</b>	May cause blurred vision and serious eye damage.

### Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	Probable mucosal damage may contraindicate the use of gastric lavage.
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## 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	The product is not flammable. Extinguish with the following media: Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.
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### Special hazards arising from the substance or mixture

<b>Specific hazards</b>	Fire creates: Toxic gases/vapors/fumes of: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Oxides of the following substances: Phosphorus. Chlorine. No unusual fire or explosion hazards noted.
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### Advice for firefighters

<b>Protective actions during firefighting</b>	Move containers from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses.
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<b>Special protective equipment for firefighters</b>	Leave danger zone immediately. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.
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### Environmental precautions

<b>Environmental precautions</b>	Avoid release to the environment. To prevent release, place container with damaged side up.
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### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Avoid the spillage or runoff entering drains, sewers or watercourses. Absorb in vermiculite, dry sand or earth and place into containers. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.
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<b>Reference to other sections</b>	For waste disposal, see section 13.
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## 7. Handling and storage

## BELLACIDE 355

### Precautions for safe handling

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists. Good personal hygiene procedures should be implemented.

### Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures not exceeding «Value in °C»°C/«Value in °F»°F. 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. Store away from the following materials: Alkalis. Reducing agents. Keep separate from food, feedstuffs, fertilizers and other sensitive material.

**Storage class** Corrosive storage.

### Specific end uses(s)

**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 known for ingredient(s).

### Exposure controls

#### Protective equipment



**Appropriate engineering controls** Avoid inhalation of vapors. Observe any occupational exposure limits for the product or ingredients. Provide adequate ventilation.

**Eye/face protection** Wear protective eye wear (goggles or face mask). Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Full face visor or shield.

**Hand protection** Wear protective gloves made of the following material: Selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Neoprene. Nitrile rubber. Polyethylene. Polyvinyl chloride (PVC). It should be noted that liquid may penetrate the gloves. Frequent changes are recommended.

**Other skin and body protection** When handling the product to prevent skin contact by splashing, wear a rubber apron.

**Hygiene measures** Provide eyewash station. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated.

**Respiratory protection** If ventilation is inadequate, suitable respiratory protection must be worn. 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.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Appearance** Liquid.

**Color** Colorless.

**Odor** Slight.

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<b>Odor threshold</b>	Not available. Not available.
<b>pH</b>	pH (concentrated solution): 6 - 8
<b>Melting point</b>	Not available.
<b>Initial boiling point and range</b>	100 @°C @ 760 mm Hg
<b>Freezing Point</b>	-8 to -10 °C / 14 to 17 °F
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Evaporation factor</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	0.96 - 1.00 @ 20°C
<b>Partition coefficient</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Explosive properties</b>	Scientifically unjustified.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidizing.
<b>Other information</b>	Not available.

**10. Stability and reactivity**

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
<b>Possibility of hazardous reactions</b>	Will not polymerize.
<b>Conditions to avoid</b>	Avoid excessive heat for prolonged periods of time.
<b>Materials to avoid</b>	Strong alkalis. Strong reducing agents.
<b>Hazardous decomposition products</b>	Fire creates: Toxic gases/vapors/fumes of: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Oxides of the following substances: Phosphorus. Chlorine.

**11. Toxicological information****Information on toxicological effects**

<b>Toxicological effects</b>	Ames Test negative
<b>Acute toxicity - oral</b>	
<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	4,000.0
<b>Species</b>	Rat
<b>ATE oral (mg/kg)</b>	10,000.0

**BELLACIDE 355****Acute toxicity - dermal**

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 2,000.0

**Species** Rat

**Acute toxicity - inhalation**

**Species** Rat

**ATE inhalation (gases ppm)** 2,000.0

**ATE inhalation (vapours mg/l)** 10.0

**ATE inhalation (dusts/mists mg/l)** 1.0

**Germ cell mutagenicity**

**Genotoxicity - in vitro** Ames test: Negative.

**Inhalation** Toxic by inhalation. LC50 0.9 mg/L. Administered as a liquid aerosol for a single 4h nose only exposure to rats.

**Ingestion** Causes burns. May cause stomach pain or vomiting.

**Skin Contact** Causes burns. Not a skin sensitizer.

**Eye contact** Causes burns.

**Acute and chronic health hazards** This product is corrosive.

**Route of entry** Skin and/or eye contact Ingestion. Inhalation

**Target Organs** Eyes Skin

**12. Ecological Information**

**Ecotoxicity** The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

**Toxicity**

**Acute toxicity - fish** Not available.  
LC<sub>50</sub>, 96 hours: mg/l, Fish

**Acute toxicity - aquatic invertebrates** Not available.  
EC<sub>50</sub>, 48 hours: mg/l, Daphnia magna

**Acute toxicity - aquatic plants** Not available.

**Persistence and degradability**

**Persistence and degradability** The product is biodegradable but it must not be discharged into drains without permission from the authorities.

**Bioaccumulative potential**

**Bio-Accumulative Potential** The product does not contain any substances expected to be bioaccumulating.

**Partition coefficient** Not available.

**Mobility in soil**

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

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### Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

### Other adverse effects

**Other adverse effects** Not available.

### 13. Disposal considerations

#### Waste treatment methods

**General information** When handling waste, the safety precautions applying to handling of the product should be considered. Triple rinse drums prior to recycling or disposal.

**Disposal methods** Absorb in vermiculite, dry sand or earth and place into containers. Dispose of waste via a licensed waste disposal contractor. 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

#### UN Number

**UN No. (DOT)** 2922

**UN No. (IMDG)** 2922

**UN No. (ICAO)** 2922

#### UN proper shipping name

**Proper shipping name (DOT)** CORROSIVE LIQUID, TOXIC, N.O.S. (contains tributyltetradecylphosphonium chloride), Marine Pollutant

**Proper shipping name (IMDG)** CORROSIVE LIQUID, TOXIC, N.O.S. (contains tributyltetradecylphosphonium chloride), Marine Pollutant

**Proper shipping name (ICAO)** CORROSIVE LIQUID, TOXIC, N.O.S. (contains tributyltetradecylphosphonium chloride), Marine Pollutant

#### Transport hazard class(es)

**DOT hazard class** 8 (6.1)

**DOT hazard label** Corrosive, Poison

**TDG class** 8 (6.1)

**IMDG Class** 8 (6.1)

**ICAO class/division** 8

**ICAO subsidiary risk** 6.1

#### Transport labels



#### Packing group

**DOT pack group** III

**IMDG packing group** III

**BELLACIDE 355**

ICAO packing group III

**Environmental hazards****Environmentally Hazardous Substance****Special precautions for user**

EmS F-A, S-B

Classification Code (Adr) CT1

**15. Regulatory information**

**Regulatory Status** 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 Avoid contact with eyes, skin and clothing.

**Regulatory References** SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.  
 PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity and for which warnings are now required.  
 TSCA: The ingredients of this product are on the TSCA Inventory.  
 29 CFR 1910.1010 Federal Regulations (OSHA Standard). This Product is Hazardous under the OSHA Hazard Communication Standard.

**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 Extremely Hazardous Substances EPCRA Reportable Quantities**

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.

**OSHA Highly Hazardous Chemicals**

None of the ingredients are listed.



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### 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.

### Inventories

#### **EU - EINECS/ELINCS**

All the ingredients are listed or exempt.

#### **Canada - DSL/NDSL**

All the ingredients are listed or exempt.

#### **US - TSCA**

All the ingredients are listed or exempt.

#### **US - TSCA 12(b) Export Notification**

None of the ingredients are listed.

#### **Australia - AICS**

All the ingredients are listed or exempt.

#### **Japan - MITI**

The following ingredients are listed:

**WATER**

#### **Korea - KECI**

All the ingredients are listed or exempt.

#### **China - IECSC**

All the ingredients are listed or exempt.

#### **Philippines - PICCS**

All the ingredients are listed or exempt.

#### **New Zealand - NZIOC**

All the ingredients are listed or exempt.

**BELLACIDE 355****16. Other information**

<b>General information</b>	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
<b>Revision comments</b>	Section 9: added Freezing Point
<b>Issued by</b>	BWA Water Additives Regulatory Group, +44(0)1618646699
<b>Revision date</b>	2/11/2016
<b>Revision</b>	7
<b>SDS No.</b>	10795
<b>Hazard statements in full</b>	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H330 Fatal if inhaled. H331 Toxic if inhaled. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
<b>NFPA - health hazard</b>	Extremely hazardous, serious injury. (3)
<b>NFPA - flammability hazard</b>	Will not burn. (0)
<b>NFPA - instability hazard</b>	Normally stable. (0)
<b>NFPA - special hazard</b>	N/A
<b>ACA HMIS Health rating.</b>	Serious Hazard. (3)
<b>ACA HMIS Flammability rating.</b>	Will not burn. (0)
<b>ACA HMIS Physical hazard rating.</b>	Normally stable. (0)
<b>ACA HMIS Personal protection rating.</b>	D

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.