



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 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 number

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

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

Precautionary statements	<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>
Contains	TRIBUTYLTETRADECYL PHOSPHONIUM CHLORIDE
WHMIS Label	D1 Materials Causing Immediate and Serious Toxic Effect. E Corrosive Material.

3. Composition/information on ingredients

Mixtures

TRIBUTYLTETRADECYL PHOSPHONIUM CHLORIDE	5.0%
CAS number: 81741-28-8	
M factor (Acute) = 10	M factor (Chronic) = 10
Classification 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

Inhalation	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.
Ingestion	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.

BELLACIDE 355

Skin Contact	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.
Eye contact	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

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

Indication of immediate medical attention and special treatment needed

Notes for the doctor	Probable mucosal damage may contraindicate the use of gastric lavage.
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5. Fire-fighting measures

Extinguishing media

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

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

Protective actions during firefighting	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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Special protective equipment for firefighters	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

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

Environmental precautions	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

Methods for cleaning up	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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Reference to other sections	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.

BELLACIDE 355

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

10. Stability and reactivity

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

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

Toxicological effects	Ames Test negative
<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	4,000.0
Species	Rat
ATE oral (mg/kg)	10,000.0

BELLACIDE 355**Acute toxicity - dermal**

Acute toxicity dermal (LD₅₀ 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.
LC₅₀, 96 hours: mg/l, Fish

Acute toxicity - aquatic invertebrates Not available.
EC₅₀, 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.

BELLACIDE 355

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.

BELLACIDE 355

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**

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: added Freezing Point
Issued by	BWA Water Additives Regulatory Group, +44(0)1618646699
Revision date	2/11/2016
Revision	7
SDS No.	10795
Hazard statements in full	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.
NFPA - health hazard	Extremely hazardous, serious injury. (3)
NFPA - flammability hazard	Will not burn. (0)
NFPA - instability hazard	Normally stable. (0)
NFPA - special hazard	N/A
ACA HMIS Health rating.	Serious Hazard. (3)
ACA HMIS Flammability rating.	Will not burn. (0)
ACA HMIS Physical hazard rating.	Normally stable. (0)
ACA HMIS Personal protection rating.	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.
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.