SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **Betta Revive™**
Product Description: Betta Revive™ 0.08 Oz Fish Bottle In Clam Pack
Product Code: 042055711005, 71100
Intended Use: Water Treatment For *Betta splendens*

COMPANY IDENTIFICATION

Producer:	**AquaScience Technologies & Research Inc.** 203 Industrial Drive Richmond, MO 64085
Phone	(816) 776-5100
Fax	(816) 776-5105
Email	troy@aquasciencetech.com
Supplier:	**Hikari Sales USA , Inc.** 2230 Davis Court Hayward, CA 94545-1114 USA
Phone	(800) 621-5619
Fax	(800) 231-5819
Email	fish@hikariusa.com

24 Hour Health Emergency	Call Your Local Urgent Care Facility
Transportation Emergency Phone	800-424-9300 or 703-527-3887 CHEMTREC
Product Technical Information	800-621-5619
SDS Internet Address	www.hikariusa.com/sds

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines, see Section 15

CLASSIFICATION:

Respiratory sensitisaton (Category1), H334
Skin Sensitisation (Category 1), H317
For the full text of the H-Statements mention in this section, see Section 16

LABEL:
Pictogram:

Signal Word: Danger

Hazard Statements:
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P285 In case of inadequate ventilation wear respiratory protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazard information: None

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
This product is not expected to produce adverse health effects under normal conditions of use, proper storage and with appropriate personal hygiene practices.

ENVIRONMENTAL HAZARDS
No significant hazards when used as directed.

NFPA Hazard ID:	Health:	0	Flammability:	0	Reactivity:	0
HMIS Hazard ID:	Health:	1*	Flammability:	0	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Improper use, eye contact, skin contact, ingestion or inhalation may cause health issues.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
WATER	7732-18-5	>85% w/w	H302, H317, H373, H400(M factor 1), H410(M factor 1)
METHYLENE BLUE	61-73-4	< 0.5% w/w	H302
PROPRIETARY POLYMER MIXTURE	N/A	< 0.5% w/w	N/A

SODIUM BICARBONATE	144-55-8	< 0.5% w/w	N/A
TETRASODIUM EDTA	64-02-8	< 0.5% w/w	H302. H332, H318, H373
MALACHITE GREEN CHLORIDE	569-64-2	< 0.01% w/w	H302, H318, H361, H410
CYANOCOBALAMIN	68-19-9	< 0.01% w/w	N/A
CALCIUM CHLORIDE	10043-52-4	< 0.001% w/w	H319

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure and remove from area to fresh air. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. If victim is having difficulty breathing give supplemental oxygen, if available.

SKIN CONTACT

Wash contact areas with plenty of running water and soap, if available. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Immediately flush thoroughly with plenty of water for several minutes. If irritation occurs, get immediate medical assistance.

INGESTION

Immediately give 3-4 glasses of milk (if available, if not use water). DO NOT induce vomiting. If vomiting does occur, give fluids immediately. Seek immediate medical attention. If medical attention will be delayed, contact a Regional Poison Center or emergency medical professional regarding the induction of vomiting or use of activated charcoal/syrup of ipecac. Do not induce vomiting or give anything by mouth to a groggy or unconscious person.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: May generate irritating and harmful gases/vapors/fumes when burning.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Phosphorus oxides, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: >246°C (475°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800) 424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid separately to containers for recovery or disposal. Keep spill out of sewers and open bodies of water.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not known to be a static accumulator.

STORAGE

Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Do not store in open or marked containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, touching your nose or mouth and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear

that cannot be cleaned. Always practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid
Color: Dark blue and viscous
Odor: Little or none
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 1
Flammability (Solid, Gas): Nonflammable
Flash Point [Method]: N/D
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: >100°C (>212°F)
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: [N/D at 20 °C]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: ~8
Log Pow (n-Octanol/Water Partition Coefficient): N/D
Solubility in Water: Complete
Viscosity: <500 cps
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: <0°C (<32°F)
Melting Point: N/A
Pour Point: N/A
Specific Gravity: ~1.016
% Volatiles: >85% w/w

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat, direct sunlight, high humidity, freezing.

MATERIALS TO AVOID: Strong oxidizing or reducing agents and strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by OSHA.
Reproductive Toxicity: No end point data for material.	Contains a substance that may be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Concentrated, prolonged or deliberate exposure may cause organ damage. Contains a substance that may cause damage to organs from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
SODIUM BICARBONATE	Oral Lethality: LD50 4,220 mg/kg (Rat)
TETRASODIUM EDTA	Oral Lethality: LD50 1,260 mg/kg (Rat)

OTHER INFORMATION

For the product itself:

For METHYLENE BLUE: Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Vomiting, diarrhea, nausea, dizziness and/or headache. Stomach irregularities based on human evidence.

FOR SODIUM BICARBONATE: Exposure to large amounts can cause gastrointestinal disturbance. Heavy or prolonged skin exposure may result in the absorption of harmful amounts of material.

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.
Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Chronic Toxicity	21 day(s)	Daphnia magna	NOELR 1 mg/l

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Dispose of waste at an appropriate treatment & disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. Protect the environment. Minimize skin contact. Do

not mix with any other substance.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA (313) Components: The following components are subject to reporting levels established by SARA Title III, Section 313:

[4-[a-[4-(Dimethylamino)phenyl]benzylidene]cyclohexa-2,5-dien-1-ylidene)dimethylammonium chloride CAS-No. 569-64-2 Revision Date 04/24/1993

SARA 311/12 Hazards: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
[4-[a-[4-(Dimethylamino)phenyl]benzylidene]cyclohexa-2,5-dien-1-ylidene)dimethylammonium chloride CAS-No. 569-64-2 Revision Date 04/24/1993

Pennsylvania Right To Know Components
[4-[a-[4-(Dimethylamino)phenyl]benzylidene]cyclohexa-2,5-dien-1-ylidene)dimethylammonium chloride CAS-No. 569-

64-2 Revision Date 04/24/1993

Cyanocobalamin CAS-No. 68-19-9 Revision Date 03/01/2007

Calcium Chloride CAS No. 10043-52-4 Revision Date

Methylthioninium chloride hydrate CAS No. 122965-43-9 Revision Date

Sodium hydrogencarbonate CAS No. 144-55-8 Revision Date

Ethylendiaminetetraacetic acid tetrasodium salt dehydrate CAS No. 10378-23-1 Revision Date

Water CAS No. 7732-18-5 Revision Date

New Jersey Right To Know Components
[4-[a-[4-(Dimethylamino)phenyl]benzylidene]cyclohexa-2,5-dien-1-ylidene)dimethylammonium chloride CAS-No. 569-64-2 Revision Date 04/24/1993

Cyanocobalamin CAS-No. 68-19-9 Revision Date 03/01/2007

Calcium Chloride CAS No. 10043-52-4 Revision Date N/A

Methylthioninium chloride hydrate CAS No. 122965-43-9 Revision Date

Sodium hydrogencarbonate CAS No. 144-55-8 Revision Date

Ethylendiaminetetraacetic acid tetrasodium salt dehydrate CAS No. 10378-23-1 Revision Date

Water CAS No. 7732-18-5 Revision Date

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H302: Harmful if swallowed; Acute Tox Oral, Cat 4
H317: May cause allergic skin reaction; Skin Sensitization, Cat 1
H318: Causes serious eye damage
H319: Causes serious eye irritation
H332: Harmful if inhaled
H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)
H373: May cause damage to organs through prolonged or repeated exposure; Target Organ, Repeated, Cat 2
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

Resp. Sens. – Respiratory sensitization
Skin Sens. – Skin sensitization
Eye Dam. – Serious eye damage

HMIS Rating

Health Hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical Hazard: 0

NFPA Rating
Health Hazard: 2
Flammability: 0
Reactivity Hazard: 0

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

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