



## MATERIAL SAFETY DATA SHEET GERMICIDAL/UV LAMPS

Germicidal lamps delivered by AQUA & CARE AS are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are "articles." The following information is provided by AQUA & CARE AS AS a courtesy to its customers.

### I. PRODUCT IDENTIFICATION

Product Name: AQUA & CARE REPLACEMENT UV LAMPS

Supplier: AQUA & CARE AS  
Lyderhornsveien 293  
5171 Loddefjord  
NORWAY

### II. HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT. If the lamp is broken the following materials may be released:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% by weight</u>	<u>Exposure Limits In Air (mg/cubic meter)</u>	
			<u>ACGIH (TLV)</u>	<u>OSHA (PEL)</u>
Quartz(Fused Silica)	60676-86-0	75-90	0.1 ***	0.1 ***
Mercury *	7439-97-6	<0.1	0.025	0.1 (ceiling)
Tin	7440-31-5	0-<1	2.0	2.0
Lead	7439-92-1	0-<1	0.5	0.05
Argon	7440-37-1	0-<1	**	none
Neon	7440-01-9	0-<1	**	none
Xenon	7440-63-3	0-<1	**	none

\* This chemical is subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

\*\* The TLV for a simple asphyxiant is a minimal atmospheric oxygen content of 18% by volume, at 1 atmospheric pressure.

\*\*\* When quartz tubing is heated to working temperatures, the silica vapors given off condense as amorphous silica. Amorphous silica has a TLV of 10mg/cu.m. and a PEL of 6mg/cu.m.

### III. PHYSICAL PROPERTIES

Not applicable to intact lamp.

### IV. FIRE AND EXPLOSION HAZARDS

Flammability:

Non- combustible

Fire Extinguishing Materials:

Use extinguishing media suitable for surrounding fire.

Special Firefighting Procedures:

Use a self contained breathing apparatus to prevent inhalation of dust and/or fumes that may be generated from broken lamps during firefighting activities.

Unusual Fire and Explosion Hazards:

When exposed to high temperature toxic fumes may be released from broken lamps.

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## V. REACTIVITY DATA

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<u>Stability:</u>	Stable
<u>Conditions to avoid:</u>	None for intact lamps.
<u>Incompatibility (materials to avoid):</u>	None for intact lamps.
<u>Hazardous Decomposition Products:</u>	None for intact lamps
<u>Hazardous Polymerization Products:</u>	Will not occur.

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## VI. HEALTH HAZARDS

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THERE ARE NO KNOWN HEALTH HAZARDS FROM LAMPS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice, avoid prolonged or frequent exposure to broken lamps unless there is adequate ventilation. The major hazard from broken lamps is the possibility of sustaining glass cuts.

### EFFECTS OF OVEREXPOSURE TO BROKEN LAMPS BY INHALATION, INGESTION, OR CONTACT WITH SKIN OR EYE.

Mercury - Exposure to high concentrations of vapors for brief periods can cause acute symptoms such as pneumonitis, chest pains, shortness of breath, coughing, gingivitis, salivation, and possibly stomatitis. Chronic exposure may cause tremors and neuropsychiatric problems. May cause redness and irritation as a result of contact with skin and/or eyes.

Quartz(fused silica) - Exposure to crystalline silica dust may cause scarring of the lungs (Silicosis), resulting in shortness of breath and coughing.

Inert gases - Inert gases such as Argon, Neon, and Xenon can cause asphyxia by displacing the ambient oxygen. Some symptoms of asphyxia are headache and dizziness.

Tin/Lead Solder - Ingestion or inhalation of dust or fumes must be avoided. Lead is toxic and cumulative, affecting the kidneys, reproductive system, and nervous system. Symptoms of chronic overexposure include anemia, insomnia, weakness, irritability, constipation and stomach pains. Tin is not regarded as toxic but excessive exposure can cause fever, nausea, stomach cramps or diarrhea.

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## VII. PROCEDURES FOR DISPOSAL OF LAMPS

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If lamps are broken, ventilate area where breakage occurred. Clean up with mercury vacuum cleaner or other suitable means that avoid dust and mercury vapor generation. Take usual precautions for collection of broken glass. Clean up requires special care due to mercury droplet proliferation. Place materials in closed containers to avoid generating dust.

It is the responsibility of the generator to ensure proper classification of waste products. To that end, TCLP tests should be conducted on all waste products to determine the ultimate disposition in accordance with all applicable federal, state, and local regulations.

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## VIII. SPECIAL HANDLING INFORMATION - FOR BROKEN LAMPS

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Ventilation: Use adequate general and local exhaust ventilation to maintain exposure levels below the PEL or TLV limits. If such ventilation is unavailable, use respirators as specified below.

Respiratory Protection: Use appropriate NIOSH approved respirator if airborne dust concentrations exceed the PEL or TLV limits. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

Eye Protection - OSHA specified safety glasses, goggles or face shield are recommended if lamps are being broken.

Hygienic Practices - After handling broken lamps, wash thoroughly before eating, smoking, or using toilet facilities.

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