

# Material Safety Data sheet

**Aquachem 115**

Page 1 / 11

Date / Revision 24/02/2011

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## 1 Product and company identification.

PRODUCT NAME : AQUACHEM 115  
Use : Biocides.  
(For further information, refer to the data sheet).

SUPPLIER  
Name : Aqueous Logic Ltd  
Address : 248 Sutton Common Road  
Sutton  
Surrey  
SM3 9PW

Telephone number : 0845 4090128  
Fax number : 020 8288 0129  
E-mail : [Sales@aqueouslogic.co.uk](mailto:Sales@aqueouslogic.co.uk)

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## 2 Hazards identification

### CLASSIFICATION

Adverse human health effects : Harmful by inhalation.  
Risk of serious damage to eyes.  
May cause sensitization by skin contact.  
May cause harm to the unborn child.

Main symptoms : Lachrymatory effect.

Further data : Possible damage to liver following repeated or prolonged exposure by ingestion.

Environmental effects : Toxic to aquatic organisms.

Physical and chemical hazards  
- Fire or explosion : NO particular fire or explosion hazard.

Specific hazards : According to EC criteria, this preparation is classified as:  
- TOXIC TO REPRODUCTION, Category 2.  
- HARMFUL.  
- IRRITANT.  
- SENSITIZING.

# SAFETY DATA SHEET

**Aquachem 115**

Page 2 / 11

Date / Revision 24/02/2011

---

## LABELLING

- Identification of the hazardous product : AQUACHEM 115  
Contains ; Tetrakis (hydroxymethyl) phosphonium sulphate
  - Classification/symbols : - TOXIC (T)
  - R phases : R20: Harmful by inhalation  
R41: Risk of serious damage to eyes.  
R43: May cause sensitisation by skin contact.  
R50: Very toxic to aquatic organisms.  
R61: May cause harm to the unborn child.
  - S phases : S24: Avoid contact with skin.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.  
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S53: Avoid exposure – obtain special instructions before use.
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## 3 Composition / information on ingredients

### >> PREPARATION

- Chemical nature : Aqueous solution
  - Components contributing to the hazard : TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (THPS) – Self-classification: Repr Cat 2: R61: T:R20 Xn:R22; Xi: R41, R43; N: R50  
EC No :259-709-0 (CAS : 55566-30-8) : 22 – 24%
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## 4 First-aid measures

- Inhalation : Move the person away from the contaminated area.  
Make the affected person rest.  
Obtain medical attention.  
Show this sheet to the doctor.
- Skin contact : Remove all contaminated clothing and footwear.  
Wash with soap and water.  
Wash immediately and thoroughly for a prolonged period (at least 15 minutes)  
In case of inflammation (redness, irritation, ...) obtain medical attention.
- Eye contact : Immediately rinse with plenty of running water for a prolonged period, (at least 15 minutes) whilst keeping the eyes wide open.  
Always obtain medical advice immediately, even if there are no systems.  
Show this sheet to the doctor.

# **SAFETY DATA SHEET**

**Aquachem 115**

Page 3 / 11

Date / Revision 24/02/2011

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- Ingestion : NEVER attempt to induce vomiting.  
Do not give anything to drink.  
Always obtain medical attention immediately.  
Show this sheet to the doctor.
- Further information : Establish a first aid action plan before using this product.  
Use appropriate protective equipment when treating a contaminated person.  
Use first aid techniques to restore vital functions.  
Place contaminated clothing in a sealed bag for disposal.
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## **5 Fire-fighting measures**

- Extinguishing media
- Suitable : All extinguishing agents can be used (water, foam, powders, carbon dioxide, sand ...)
  - Not suitable : None. If there is a fire close by, use suitable extinguishing agents.
- Specific hazards : Toxic gases or vapours are released.
- Protection of fire-fighters : Self-contained breathing apparatus.  
Complete protective clothing.
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## **6 Accidental release measures**

- Personal precautions
- : Avoid contact with eyes, skin and respiratory system.  
If spillage occurs on the public highway, indicate the danger and notify the authorities (police, fire brigade).
    - full protective clothing and equipment.For further information refer to section 8  
"Exposure-controls / personal protection".
- Environmental precautions : Prevent the product from spreading into the environment.  
Contain the spilled material by bunding.
- Methods for cleaning up
- Recovery : Recover as much of the product as possible. Absorb the product onto porous material. Transfer the product into a spare container:
    - suitably labelled. Then take the emergency containers to an area reserved for subsequent recycling or disposal.
  - Neutralisation : Absorb spillage with:
    - diatomaceous earth.
    - sand or inert absorbent.
  - Cleaning/Decontamination : Wash non-recoverable remainder with large amounts of water.  
Recover the cleaning water for subsequent disposal.
  - Disposal : Place in an appropriate container and dispose of the contaminated material at a licensed site.

# **SAFETY DATA SHEET**

**Aquachem 115**

Page 4 / 11

Date / Revision 24/02/2011

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## **7 Handling and storage**

### **HANDLING**

- Technical measures : Ventilation.  
Measures : This product must only be handled by skilled operators  
Avoid exposure:  
: Work in a well-ventilated area.  
: Avoid forming aerosols. Avoid the formation of mists in the atmosphere.  
Do NOT handle without gloves.  
Safe handling advice : Obtain special instructions before use.  
Handle and use in accordance with good occupational hygiene and safety practice.  
Do not mix with incompatible materials (See list section 10)

### **STORAGE**

- Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.  
Storage conditions  
- Recommended : Store:  
- in a cool, dry area  
Incompatible products : Strong reducing agents.  
Strong oxidizing agents.  
Strong acids.  
Strong bases.  
Packaging : - Polyethylene or Polypropylene drums. (high density)  
Packaging materials  
- Recommended : Plastic materials (polyethylene, polypropylene). (high density)
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## **8 Exposure controls/ personal protection**

- Engineering measures : Avoid splashes (appropriate clothing, protective screens on machines etc.)  
Ensure good ventilation of the work station.  
Control parameters  
Exposure limit values (Human Health)  
-Limits (UK) : No specific limits.  
Surveillance procedures : Reduce exposure time to the minimum necessary.  
Personal protective equipment  
- Respiratory protection : If mist is formed. Respiratory protective device with a particle filter.

## SAFETY DATA SHEET

**Aquachem 115**

Page 5/ 11

Date / Revision 24/02/2011

---

- Hand protection : Use suitable chemical-resistant protective gloves (compliant with Standard EN 374 -1)  
Protective gloves must be chosen according to the function of the Work station: other chemicals which may be handled, physical protection necessary (resistance to cutting, puncture, heat), dexterity required.  
The selection of gloves must take into account the extent and duration of use at the workstation.  
Permeation, thickness and protection class according to Standard EN 374-1 : 75% THPS  
Glove material : Protective gloves made of PVC.  
Thickness : 1.23 mm  
Breakthrough time : >480 minutes  
Protection class : 6
- Eye protection : (Unpublished internal reports)  
Safety spectacles and a face shield.
- Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
- Selection criteria : Protective equipment must be chosen according to current CEN standards and in cooperation with the supplier of protective equipment.  
Personal protective equipment must be defined after risk assessment for the workstation.
- Collective emergency equipment : Emergency equipment and first-aid box with instructions readily available.  
Eye fountain.  
Safety shower.
- Hygiene measures : Use clean and correctly maintained personal protective equipment.  
Keep personal protective equipment in a clean place, away from the work area.  
Always wash your hands immediately after handling this product, and once again before leaving the workplace.  
DO NOT eat or drink in the workplace.
- Further information : The user is responsible for monitoring the working environment in Accordance with local laws and regulations.

# SAFETY DATA SHEET

**Aquachem 115**

Page 6/ 11

Date / Revision 24/02/2011

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## **9 Physical and chemical properties**

### APPEARANCE

- Physical state : Liquid
  - Colour : colourless to pale yellow.
  - Odour : characteristic.
  - pH : 3 – 6 at 20°C
  - Specific temperatures
    - Freezing : Approx. -3°C
    - Boiling : 108.5°C. (Normal pressure: 1013 hPa).
  - Flammability characteristics
    - Flash point : Not applicable
  - Oxidizing properties : Not applicable
  - Vapour pressure : <0.0000026 hPa, at 25°C (Dry product).
  - Specific gravity : 1100 – 1125 kg/m<sup>3</sup>, at 20°C
  - Solubility
    - in water : Miscible (in all proportions).
    - in organic solvents : Soluble in: - methanol, - n-methyl pyrrolidone. – isopropanol.  
Insoluble in: - acetone, -tetrahydrofuran.
  - Octanol/water partition coefficient : -9.8 (log POW). (evaluation by structure-activity relationship)
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## **10 Stability and reactivity**

- Stability : Stable under normal conditions of use.
- Hazardous reactions
  - Conditions to avoid : Decomposes above 160°C
  - Materials to avoid : - strong bases.  
- strong reducing agents  
- strong acids  
- strong oxidising agents.
- Hazardous decomposition products : (Sulphur oxides). (Phosphorous oxides). (Carbon oxides (CO + CO<sub>2</sub>)). (Phosphine) (Hydrogen).

# SAFETY DATA SHEET

**Aquachem 115**

Page 7/ 11

Date / Revision 24/02/2011

---

## **11 Toxicological information**

- NOTE : All the results given under this heading refer to: 75% THPS  
Aqueous solution.
- Acute toxicity : LC 50 inhalation, 4h :0.59 mg/l  
for males and females  
(Published data)  
LD 50 skin (Rat): > 2000 mg/kg.  
for males and females  
(Unpublished internal reports)  
LD 50 oral: 575 mg/kg (Rat)  
for males and females  
(Unpublished internal reports)
- Acute symptoms : Watering of the eyes.
- Local effects : NOT considered to be: Irritating to the respiratory system.  
According to OECD method 404:  
Not irritating to rabbits on cutaneous application  
(Unpublished internal reports)  
According to OECD method 405:  
Extremely irritating to rabbits on ocular application.  
Risk of serious damage to eyes.  
(Unpublished internal reports)
- Sensitisation : May cause sensitisation on contact with skin.  
(Unpublished internal reports)
- Repeated dose toxicity : on ingestion
- Specific effects : Repeated dose toxicity (90 days) (Rat)  
for males and females  
Hepatotoxic effects.  
No observed effect level (NOEL); 1 mg/kg/day  
(Unpublished internal reports)
- Carcinogenicity : Oral toxicity tests on rats and mice did not reveal any carcinogenic  
potential. (Published data )
- Mutagenicity : Ames test  
(S. typhimurium)  
(with or without metabolic activation).  
Negative.  
(Unpublished internal reports)
- Chromosomal aberrations:  
Mammalian cells  
(CHO)  
In vitro  
(with or without metabolic activation).  
Positive.  
(Unpublished internal reports)

# SAFETY DATA SHEET

**Aquachem 115**

Page 8/ 11

Date / Revision 24/02/2011

---

In vitro  
UDS test  
(Rat)  
Negative.  
(Unpublished internal reports)

Mouse lymphoma test/TK  
(with or without metabolic activation).  
Positive.  
(Unpublished internal reports)

Rodent dominant Lethal test  
(Rat)  
In vivo  
Negative  
(Unpublished internal reports)

In vivo micronucleus test  
(mouse)  
Negative.  
(Unpublished internal reports).

- Reproductive toxicity : Product is not considered to be genotoxic  
: Fertility study (2 generations) (Rat)  
no impairment of fertility has been observed on ingestion  
(unpublished internal reports)

Developmental toxicity study:  
On ingestion  
(Rat)  
NOEL, maternal toxicity: 15 mg/kg/day  
NOEL, foetal toxicity: 30 mg/kg/day  
(Unpublished internal reports)

Developmental toxicity study:  
On ingestion  
(Rabbit)  
NOEL, maternal toxicity : 18 mg/kg/day  
NOEL, foetal toxicity : 18 mg/kg/day  
Effects on development were observed  
May cause harm to the unborn child.  
(Unpublished internal reports)

- Neurotoxicity : Screening biochemistry test kit for cholinesterase activity inhibition  
The product does not induce inhibition.

# SAFETY DATA SHEET

**Aquachem 115**

Page 9/ 11

Date / Revision 24/02/2011

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## **12 Ecological information**

- NOTE** : All the results given under this heading refer to: 75% THPS  
Aqueous solution
- MOBILITY**  
Adsorption/desorption : Log Koc = 2.2  
Moderately mobile in soils
- Expected behaviour of the product : Ultimate destination of the product: WATER
- DEGRADABILITY**  
Abiotic degradation  
- other physico-chemical reactions : Product is easily oxidizable in aqueous media in dilute solutions.
- BIODEGRADABILITY**  
- Ultimate aerobic biodegradability : Simulation study:  
70% biodegradation after 21 days. (US EPA FIFRA, Subdivision  
N, section 162-4  
Readily biodegradable
- Anaerobic biodegradation : Simulation study:  
60% biodegradation after 30 days. (US EPA FIFRA, Subdivision  
N, section 162-3
- Persistence : Product is not persistent.
- BIOACCUMULATION**  
Effects on the aquatic environment : LC 50 (Fish: Oncorhynchus mykiss) / 96h: 119 mg/l.  
LC 50 (Fish: Lepomis macrochirus) / 96h: 93 mg/l.  
EC 50 (Daphnia: Daphnia magna) / 48h: 19.4 mg/l.  
EC 50 (Fresh water algae: Pseudokirchneriella subcapitata) / 96  
h; 0.20 mg/l.  
EC 50 (Bacteria : Activated sludge) / 3hr(s) : 24 mg/l  
(Unpublished internal reports)
- Further information : Not classified as Dangerous for the Environment, according to  
EC criteria.  
(by calculation according to the conventional method)
- THPS;  
M factor = 1 (according to the Globally Harmonised system  
(GHS) and the 2<sup>nd</sup> Adaption to Technical Progress of Directive  
1999/45/EC)

# SAFETY DATA SHEET

**Aquachem 115**

Page 10/ 11

Date / Revision 24/02/2011

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## **13 Disposal considerations**

### RESIDUES FROM PRODUCT

- Prohibition : Do NOT discharge waste into drains.  
Destruction/Disposal : Dispose of in accordance with relevant local regulations.  
Dispose of this product as hazardous waste. Incinerate at a licensed installation.

### CONTAMINATED PACKAGING

- Decontamination/cleaning : Take preliminary precautions based on the dangerous properties of the product.  
Empty the packaging completely prior to disposal.  
Destruction/Disposal : Depending on local facilities, recycle or incinerate the packaging at an authorised site.  
NOTE : The user's attention is drawn to the possible existence of local regulations regarding disposal.
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## **14 Transport information**

### INTERNATIONAL REGULATIONS

#### Land

- Rail/road (RID/ADR) : NOT restricted  
Sea (IMO/IMDG) : NOT restricted  
Air (ICAO-IATA) : NOT restricted

### OTHER REGULATIONS

- United Kingdom: Rail/road : NOT restricted

- NOTE : The above regulatory prescriptions are those valid on the date of publication of this sheet. However, given the possible evolution of transport regulations for hazardous materials and in the event of the SDS in your possession dating back more than 12 months, it is advisable to check their validity with your sales office.
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## **15 Regulatory information**

- EC regulations : Mandatory labelling (self-classification) of hazardous preparations: **APPLICABLE**  
Market limitation : Restricted to professional users.  
>>Further regulations

# SAFETY DATA SHEET

**Aquachem 115**

Page 11/ 11

Date / Revision 24/02/2011

---

- United Kingdom : Handle in accordance with relevant legislation:  
Chemical Hazard Information and Packaging for Supply Regulations.  
  
Control of Substances Hazardous to Health Regulations  
Environmental Protection Act  
Collection and Disposal of Waste Regulations.
- NOTE : The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the Safety Data Sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.
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## **16 Other information**

- Further product information : All data quoted in this SDS are owned by Aqueous Logic Ltd unless otherwise indicated.
- R Phrases of section 2 & 3 : R 20: Harmful by inhalation  
R22: Harmful if swallowed.  
R41: Risk of serious damage to eyes.  
R43: May cause sensitisation by skin contact.  
R61: May cause harm to the unborn child.  
R50: Very toxic to aquatic organisms.
- 

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfil his obligations regarding the use of hazardous products. This information is not exhaustive. This does not exonerate the user from ensuring that legal obligations, other than those mentioned, relating to the use and storage of the product, do not exist. This is solely his responsibility.