SAFETY DATA SHEET
Citifluor AF100 Antifadent solution

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name Citifluor AF100 Antifadent solution

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses A buffered amine solution for use in fluorescence microscopy.

1.3. Details of the supplier of the safety data sheet
Supplier Citifluor Ltd.
18 Enfield Cloisters
Fanshaw Street
London
N1 6LD
United Kingdom
Tel: +44 (0)20 7739 6561
Fax: +44 (0)20 7729 2936
Contact Person R Stephen Davidson
davidson@citifluor.co.uk

1.4. Emergency telephone number
+44 (0)207 739 6561
Note
Office hours only.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (EC 1272/2008)
Physical and Chemical Hazards
Not classified.
Human health
Acute Tox. 4 - H302; Skin Irrit. 2 - H315; Eye Irrit. 2 - H319
Environment
Aquatic Chronic 4 - H413
Classification (1999/45/EEC) Xn;R22. Xi;R36/38. R53.
The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.
Human health
May cause temporary irritation on skin or eye contact.
Environment
The product contains a substance which may cause long term adverse effects in the aquatic environment.

2.2. Label elements
Label In Accordance With (EC) No. 1272/2008
Citifluor AF100 Antifadent solution

Signal Word Warning

Hazard Statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H413 May cause long lasting harmful effects to aquatic life.

Precautionary Statements

P273 Avoid release to the environment.
P280 Wear protective clothing.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+330+331+313 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention.
P404 Store in a closed container.
P501 Dispose of contents/container in accordance with local regulations.

Supplementary Precautionary Statements

P270 Do not eat, drink or smoke when using this product.
P264 Wash contaminated skin thoroughly after handling.

2.3 Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>triethylenediamine</td>
<td>10-30%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No.: 280-57-9</th>
<th>EC No.: 205-999-9</th>
</tr>
</thead>
</table>

Classification (EC 1272/2008) Classification (67/548/EEC)
Flam. Sol. 1 - H228 Xn;R22.
Acute Tox. 4 - H302 Xi;R36/38.
Skin Irrit. 2 - H315 F;R11. R53.
Eye Irrit. 2 - H319 Aquatic Chronic 4 - H413

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation
If unconscious or breathing is irregular place on their side in the recovery position and ensure their airways are clear. Artificial respiration may be administered by suitably qualified first-aiders if the patient is unconscious or breathing is difficult. Get immediate medical attention.

Ingestion
If swallowed do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach contents do not enter lungs. Rinse mouth thoroughly and seek medical attention immediately. Keep patient at rest.

Skin contact
Remove contaminated clothing and shoes. Wash skin thoroughly with soap and running water. Take especial care to clean folds, crevices, creases and groin. Get medical attention if irritation persists or develops. Launder clothing and clean shoes thoroughly before reuse.

Eye contact
Promptly rinse eyes with plenty of clean water while lifting the eyelids. Continue to rinse for at least 15 minutes. Continue until the eyes are free of all traces of contamination. Get immediate medical attention.
SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media
Extinguish with foam, carbon dioxide, dry powder or water fog. Do not use high pressure water jet as this may spread burning material.

5.2. Special hazards arising from the substance or mixture
Unusual Fire & Explosion Hazards
Vapours are heavier than air and may spread near ground to sources of ignition.

5.3. Advice for firefighters
Protective equipment for fire-fighters
Wear self-contained breathing apparatus and full protective clothing. Keep all unnecessary people away. Fire water run-off must not be allowed to contaminate ground or enter drains, sewers or water courses. Provide bunding against fire water run-off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Do not smoke, use open fire or other sources of ignition. Ventilate to dispel any residual vapour. Clean-up personnel should use respiratory protection, gloves, goggles and protective clothing and footwear (see section 8). Keep unnecessary people at a safe distance.

6.2. Environmental precautions
Do not allow spilt material to enter drains or water courses. Cover all drains and sewers. Avoid spreading spilled material. Contain spillages with sand, earth or suitable inert absorbent material. Prevent further spillage if safe to do so. In the event of contamination of watercourses or sewers advise the Environment Agency, fire brigade and police.

6.3. Methods and material for containment and cleaning up
Wear necessary protective equipment. Absorb in vermiculite, dry sand or earth and place into containers. Do not contaminate water sources or sewer.

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling
Use only in well ventilated areas. Avoid spilling, skin and eye contact. Do not breathe vapours or fumes. Keep away from heat and sources of ignition such as sparks or flames. Take precautions against static discharge. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities
Store in tightly closed original container in a dry, cool and well-ventilated place. To prevent environmental contamination stored containers should be routinely inspected for damage and leakage.

7.3. Specific end use(s)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Ingredient Comments
No exposure limits noted for ingredient(s).
8.2. Exposure controls

Engineering measures
Provide adequate general and local exhaust ventilation.

Respiratory equipment
If ventilation is insufficient suitable respiratory protection must be provided.

Seek advice and recommendations of the manufacturer or supplier of equipment

Hand protection
Wear suitable protective gloves conforming to EN 374.

The actual level of protection provided by protective gloves can be difficult to assess. Effective breakthrough times should be used with care and a margin of safety should be applied. The UK HSE guidance recommends a safety factor of 75% be applied to times obtained by laboratory tests.

Seek advice from the manufacturer or supplier.

Personal hygiene is a major factor in effective hand care. Gloves should only be worn on clean hands. After using gloves, hands should be washed and thoroughly dried and a non-perfumed moisturiser applied.

Eye protection
Wear tightly fitting safety goggles conforming to EN 166.

Other protection
Minimise all forms of skin contact. Overalls and footwear with oil and chemical resistant soles should be worn. Launder overalls and undergarments regularly.

Hygiene measures
DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Wash promptly with soap & water if skin becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear colourless liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slightly soluble in water.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>&gt;100°C</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
<td>ca. 10.5 @ 20°C</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stable under normal conditions of storage and use. See section 7.

10.3. Possibility of hazardous reactions

Not known.

10.4. Conditions to avoid

Avoid contact with acids and oxidising substances. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials To Avoid
Acids, non-oxidising.

10.6. Hazardous decomposition products

During fire, toxic gases (CO, CO2, NOx) are formed.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects

Toxicological information
No data are available for this product. It has been classified according to the calculation procedure of the EC Dangerous Preparations Directive using known information and calculated data about the individual components then read across to the Classification, Labelling and Packaging of substances and mixtures directive (as amended).

Inhalation
Not relevant at normal room temperatures. When heated, irritating vapours may be formed.

Ingestion
Harmful if swallowed.

Skin contact
Irritating to skin. Not a skin sensitiser.

Eye contact
May cause severe irritation to eyes. Visual disturbances including blurred vision

12.1. Toxicity
May decrease the acidity of aquatic systems to pH >10 which is toxic to aquatic organisms.

12.2. Persistence and degradability
Degradability
The product is expected to be biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential
The product does not contain any substances expected to be bioaccumulating.

12.4. Mobility in soil
Mobility:
The product contains substances, which are water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment
This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

13.1. Waste treatment methods
Small amounts may be flushed with water to sewer. Larger volumes must be sent to approved plant for destruction.

14. General
The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
Not applicable.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user
Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Statutory Instruments
Control of Substances Hazardous to Health Regulations (as amended). (COSHH)
Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007. (CDG 2009)
Management of Health & Safety at Work Regulations 1999.
Approved Code Of Practice
The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved code of practice and guidance.
Guidance Notes
Introduction to Local Exhaust Ventilation HS(G)37.
The storage of flammable liquids in containers HSG51 (HSE 1998).
COSHH essentials. 'Easy steps to control chemicals.' Only available on HSE's website and regularly updated at http://www.hse.gov.uk/pubns/guidance/index.htm
EU Legislation
ADR (L’Accord européen relative au transport international des marchandises dangereuses par route.)

15.2. Chemical Safety Assessment
No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION
Revision Comments
Comprehensive revision.
New format SDS, including classification to CLP (EC 1272/2008).
And translated into the language of this document as of the date below.
Revision Date 29-APR-13
Revision 03 replaces 02
Supersedes date 02-APR-04
Risk Phrases In Full
R22 Harmful if swallowed.
R11 Highly flammable
R36/38 Irritating to eyes and skin.
R53 May cause long-term adverse effects in the aquatic environment.
Hazard Statements In Full
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H228 Flammable solid.
H302 Harmful if swallowed.
H413 May cause long lasting harmful effects to aquatic life.

Disclaimer
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.