SAFETY DATA SHEET

Citifluor  AF3 Antifadent Solution

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

1.1 Product identifier

Product name  Citifluor AF3 Antifadent Solution

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: A glycerol-amine solution for use in fluorescence microscopy
Uses advised against: Any use other than those identified.

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
Email: davidson@citifluor.co.uk

1.4 Emergency telephone number

+44 (0)20 7739 6561
Note: office hours only

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)

<table>
<thead>
<tr>
<th>Physical and chemical</th>
<th>not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazards</td>
<td></td>
</tr>
<tr>
<td>Human health</td>
<td>not classified</td>
</tr>
<tr>
<td>Environment</td>
<td>not classified</td>
</tr>
</tbody>
</table>

Classification (1999/45/EEC)
The Full Text for all R-Phrases and Hazard Statements are displayed in Section 16.

Human Health
May cause minor irritation on eye contact.

Environment
The product is not expected to be hazardous to the environment

2.2 Label elements

Label in Accordance with (EC) No. 1272/2008
Precautionary Statements

P280 Wear protective clothing
P302+352 IF ON SKIN: Wash with plenty of water.
P305+351+338 Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do. Continue rinsing.
P337+313 If eye irritation persists: Get medical advice/attention
P301 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

P101 If medical advice is needed, have product container or label at hand

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Triethylenediamine 1-5%
CAS-No: 280-57-9  EC No: 205-999-9

Classification (EC 1272/2008)
Flam. Sol. 1 – H228
Acute Tox. 4 - H302
Skin Irrit. 2 - H315
Eye Irrit. 2 – H319
Aquatic Chronic 4 – H413

Classification (EC 1272/2008)
Xn;R22
Xi;R36/38
F:R11, R53

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation
Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

Ingestion
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Get medical attention if any discomfort continues.

Skin contact
Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

Eye contact
Check for contact lenses which must be removed from the eyes before rinsing.
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 medical attention if any discomfort or irritation persists.

4.2 Most important symptoms and effects, both acute and delayed
4.3 Indication of any immediate medical attention and special treatment needed

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media
Extinguish with foam, carbon dioxide, dry powder or water fog
Unsuitable extinguishing media
Do not use a water jet as this may spread the fire

5.2 Special hazards arising from the substance or mixture
Hazardous combustion products
If heated, vapours/gases hazardous to health (e.g. CO, NOx, isocyanates) may be formed.
Unusual Fire & Explosion Hazards
No unusual fire or explosion hazards noted.
Specific Hazards
In case of fire, toxic and corrosive gases may form.

5.3 Advice for fire-fighters
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
In case of spills, beware of slippery floors and surfaces.

6.2 Environmental precautions
Cover all drains and sewers. Avoid spreading spilled material.

6.3 Methods and material for containment and cleaning up
Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Flushings must not be allowed to contaminate ground or enter drains, sewers or water courses.

6.4 Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid spilling, skin and eye contact. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
Store in tightly closed container in a dry and cool place. Keep away from food, drink and animal feeding stuffs. Do not store with strong acids.

7.3 Specific end use(s)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Ingredient Comments
No exposure limits noted for ingredients

8.2 Exposure controls
Engineering measures
Provide adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of vapours.

Respiratory equipment
In case of inadequate ventilation of when the product is heated use suitable respiratory equipment with gas filter (type A2).

Hand protection
Wear suitable protective gloves conforming to EN 374. Seek recommendation from manufacturer or supplier. After using gloves the hands should be washed and dried thoroughly and a suitable moisturiser applied.

Eye protection
Use approved safety goggles or face shield.

Other protection
Wear appropriate clothing to prevent any possibility of skin contact.

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. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that 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>Fully miscible with water</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>~100°C</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.338 +/- 0.005 @ 22°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 oxidising substances and strong acids

10.5 Incompatible materials

Strong oxidising agents and strong acids

10.6 Hazardous decomposition products

Decomposition can lead to vapours/gases hazardous to health (e.g. CO, NOx, isocyanates) being formed.
SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Oral toxicity
LD$_{50}$ oral-rat >2000 mg/kg
Except for the above, 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 individual components then read across to the Classification, Labelling and Packaging substances and mixtures directive (as amended).

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

Ingestion
No harmful effects expected in amounts likely to be ingested by accident.

Skin Contact
Liquid may irritate the skin

Eye contact
May cause temporary skin irritation

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.1 Toxicity

12.2 Persistence and degradability
Degradability
This product is expected to be biodegradable

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

12.4 Mobility in soil
Mobility:
This product is completely water soluble and therefore may spread into 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

SECTION 13: DISPOSAL CONSIDERATIONS

General information
Do not dispose to landfill or water courses.

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

SECTION 14: TRANSPORT INFORMATION

General: The product is not covered by international regulation on the transport of dangerous
14.1 UN number
Not applicable.

14.2 UN proper shipping name
Not applicable.

14.3 Transport hazard class(es)
Transport labels: No transport warning sign required.

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 IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Statutory instruments
Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 SI No 716 (CHIP4).
Control of Substances Hazardous to Health Regulations (as amended) (COSHH).
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
COSHH essentials. ‘Easy steps to control chemicals’. Only available on HSE’s website and regularly updated at http://www.hse.gov.uk/pubns/guidance/inex.htm
CHIP for everyone HSG(108).

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 22-Aug-13
Revision 03 replaces 02
Supersedes date 25-Mar-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
NC Not classified

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.