

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006



ADITAN

SUBID : 000000005610

Version 11

Print Date 18.07.2008

Revision Date 17.07.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance/preparation

Product name : ADITAN
Use of the Substance/Preparation : Photographic hardening solution

Company/Undertaking Identification

Agfa-Gevaert Ltd.
Vantage West
Great West Road
Brentford, Middlesex TW8 9AX
United Kingdom
Tel. : +44 (0)20 8 231 4616
Fax : +44 (0)20 8 231 4951
Person responsible for the safety data sheet: Jos Vanholzaets
E-mail: electronic.sds@agfa.com

Emergency telephone number (Belgium) : +32 3 4443333 (24h/24h)

2. HAZARDS IDENTIFICATION

EC-classification:

Symbol(s) : Xi Irritant
R-phrases(s) : R41 Risk of serious damage to eyes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

The hazard and labelling information in this section is that of the individual ingredients. The corresponding information relative to this product as supplied is given in section 15. Full text of each relevant R-phrase is listed in section 16.

Aqueous photographic hardening solution, mainly consisting of:

Hazardous components

- | | | | | | |
|----------------------|----------------|---------------------|------|---|------|
| • Aluminium sulphate | | Concentration [%] : | 10.0 | - | 20.0 |
| CAS-No. | : 10043-01-3 | | | | |
| EINECS-No. | : 233-135-0 | | | | |
| Symbol(s) | : Xi | | | | |
| R-phrase(s) | : R41 | | | | |
| • Acetic acid | | Concentration [%] : | 5.0 | - | 10.0 |
| CAS-No. | : 64-19-7 | | | | |
| Index-No. | : 607-002-00-6 | | | | |
| EINECS-No. | : 200-580-7 | | | | |
| Symbol(s) | : C | | | | |
| R-phrase(s) | : R10, R35 | | | | |
| • Citric acid | | Concentration [%] : | 5.0 | - | 10.0 |
| CAS-No. | : 77-92-9 | | | | |
| EINECS-No. | : 201-069-1 | | | | |
| Symbol(s) | : Xi | | | | |
| R-phrase(s) | : R36 | | | | |

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4. FIRST AID MEASURES

- Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin contact : Wash immediately with plenty of water and soap. If symptoms persist, seek medical advice.
- Ingestion : Rinse mouth with plenty of water. Seek medical advice.
- Inhalation : Take person to fresh air. If necessary, seek medical advice.

5. FIRE-FIGHTING MEASURES

- Further information : Product is not combustible.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : See section : Exposure controls / personel protection.
- Environmental precautions : For waste disposal see section 13.
- Methods for cleaning up : Dike the spill if necessary. Soak up with absorbent material. Collect large spills into a properly labelled and sealable container. Prevent release into the drain, soil or surface water.
- Additional advice : Wash away residues with plenty of water.

7. HANDLING AND STORAGE

Handling

- Advice on protection against fire and explosion : No special protective measures against fire and explosion required.

Storage

- Requirements for storage areas and containers : Keep container tightly closed. Protect from direct sunlight.
- Advice on common storage : Store away from strong alkalis.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values

Components	CAS-No.	Values	Type	Revision Date	Basis
Aluminium sulphate	10043-01-3	2 mg/m ³	TWA	2005	EH40 WEL
Acetic acid	64-19-7	25 mg/m ³	TWA	05 2001	EU ELV

Exposure controls

- Engineering measures : Ventilation should be sufficient so that any applicable occupational exposure limits are not exceeded.
- Hygiene measures : Observe normal precautions when handling chemicals. Avoid inhaling vapour. Keep away from foodstuffs, drinks and tobacco.
- Hand protection : Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact use gloves made of the

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materials: butyl rubber (thickness \geq 0.36 mm, breakthrough time $>$ 480 min), nitrile rubber (thickness \geq 0.38 mm, breakthrough time $>$ 480 min) or neoprene (thickness \geq 0.65 mm, breakthrough time $>$ 240 min). For intermittent splash protection corresponding gloves with breakthrough times $>$ 60 min can be used. Avoid gloves made of: natural latex.

Eye protection : Safety goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form : Liquid.
Colour : Colourless.
Odour : Smell of acetic acid

Important Health Safety and Environmental Information

Vapour pressure (20 °C) : 23.00 hPa
Relative density (20 °C) : 1.167
Solubility/qualitative : Miscible with water at all ratios.
pH (25 °C) : 1.1
Melting point/range : $<$ 0 °C
Boiling point/range : $>$ 100 °C

10. STABILITY AND REACTIVITY

Stability : The product is stable under normal conditions of storage and use.

Conditions and materials to avoid : Avoid contact with strong alkalis. Remove all chemicals and rinse the processing tanks thoroughly with water before using any cleansing products.

Hazardous decomposition products : None

11. TOXICOLOGICAL INFORMATION

Risk of serious damage to eyes.

Toxicity data specific for individual ingredients in their pure state:

Acute oral toxicity

• Aluminium sulphate	: LD50 rat	$>$ 5,000 mg/kg
• Acetic acid	: LD50 rat	3,310 mg/kg
• Citric acid	: LD50 rat	3,000 mg/kg

Acute inhalation toxicity

• Acetic acid	: LC50 rat	11.4 mg/l/ 4 h
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Acute dermal toxicity

• Acetic acid	: LD50 rabbit	1,060 mg/kg
• Citric acid	: LD50 rabbit	5,500 mg/kg

Other information

Hazard labelling of this preparation or substance : see section 15.

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12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradation

- Acetic acid : OECD 301D Assessment of biological degradability
99 % after 30 d
- Citric acid : OECD 302B Inherent biodegradability
98 % after 2 d

Ecotoxicity effects

Ecotoxicity data specific for individual ingredients in their pure state:

Toxicity to fish

- Acetic acid : Species: Pimephales promelas (fathead minnow)
LC50: 88 mg/l/ 96 h
- Citric acid : Species: Leuciscus idus (golden orfe)
LC50: 760 mg/l/ 48 h

Toxicity to daphnia

- Acetic acid : Species: Daphnia magna (water flea)
EC50: 47 mg/l/ 24 h
- Citric acid : Species: Daphnia magna (water flea)
EC50: 120 mg/l/ 72 h

Toxicity to algae

- Acetic acid : Species: Scenedesmus quadricauda (algae)
EC10: 4,000 mg/l/ 8 d
- Citric acid : Species: Scenedesmus quadricauda (algae)
EC5: 640 mg/l/ 7 d

Toxicity to bacteria

- Acetic acid : Species: Pseudomonas putida (bacteria)
EC10: 2,850 mg/l/ 16 h
- Citric acid : Species: Pseudomonas putida (bacteria)
EC5: > 10,000 mg/l/ 16 h

Further information on ecology

- Biochemical oxygen demand : > 6,000 mg/l
within 5 days (BOD5)
Chemical Oxygen Demand : 169,000 mg/l
(COD)

This preparation does not contain any ingredient that is classified as hazardous to the environment according to European Directives and corresponding national legislation.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

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Environmental regulations, discharge of chemicals and washwater, waste treatment and disposal conditions of chemicals and their packaging may vary from one country to another. The relevant local regulations should be consulted. When this product or its contaminated packaging has to be removed as waste, contact an authorized waste contractor. May be discharged to drain if local regulations permit.

For waste resulting from this product, it is recommended to use European Waste Code : 09 01 04 (fixer solutions).

14. TRANSPORT INFORMATION

ADR

UN-No : 3264
Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class : 8
Packing group : III
Classification Code : C1
Labelling No. : 8
Risk No. : 80

RID

UN-No : 3264
Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class : 8
Packing group : III
Classification Code : C1
Labelling No. : 8
Risk No. : 80

ADNR

UN-No : 3264
Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class : 8
Packing group : III
Classification Code : C1
Labelling No. : 8

IMO / IMDG

UN-No : 3264
Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class : 8
Packing group : III
Labelling No. : 8
EmS : F-A, S-B

ICAO / IATA cargo aircraft only

UN-No : 3264
Proper shipping name : Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class : 8
Packing group : III
Labelling No. : 8
Packing instruction : 820

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ICAO / IATA passenger and cargo aircraft

UN-No	:	3264
Proper shipping name	:	Corrosive liquid, acidic, inorganic, n.o.s. (Acetic acid, citric acid, Aluminium sulphate)
Class	:	8
Packing group	:	III
Labelling No.	:	8
Packing instruction	:	818

15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol(s)	:	Xi	Irritant
R-phrases	:	R41	Risk of serious damage to eyes.
S-phrases	:	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S39	Wear eye/face protection.

16. OTHER INFORMATION

Further information

Text of R-phrases referred to under headings 2 and 3:

R10	Flammable.
R35	Causes severe burns.
R36	Irritating to eyes.
R41	Risk of serious damage to eyes.

This Safety Data Sheet is compiled in accordance with European Directives and corresponding national legislation.

The information disclosed in this Safety Data Sheet is believed to be correct to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other material or in any process, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management.