

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006



POLYMER DELETION PEN

SUBID : 000001008082

Version 1

Print Date 11.12.2008

Revision Date 10.12.2008

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

Identification of the substance/preparation

Product name : POLYMER DELETION PEN
Use of the Substance/Preparation : Correction pen

Company/Undertaking Identification

Agfa-Gevaert Ltd.
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2. HAZARDS IDENTIFICATION

EC-classification:

Symbol(s) : T Toxic
C Corrosive
R-phrases(s) : R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R36 Irritating 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.

This correction pen mainly consists of a plastic housing enclosing a porous wick, which retains a very small quantity of corrector liquid. When not in use, the pen is closed with a protective cap. Labelling and hazard information in this Safety Data Sheet refers to the pure corrector liquid as retained in the wick.

Hazardous components

- Formic acid Concentration [%] : 40.0 - 60.0
CAS-No. : 64-18-6
Index-No. : 607-001-00-0
EINECS-No. : 200-579-1
Symbol(s) : C
R-phrase(s) : R35
- gamma-Butyrolactone Concentration [%] : 30.0 - 40.0
CAS-No. : 96-48-0
EINECS-No. : 202-509-5
Symbol(s) : Xn
R-phrase(s) : R22, R36
- Hydrofluoric acid Concentration [%] : 1.0 - 7.0

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CAS-No.	:	7664-39-3			
Index-No.	:	009-002-00-6			
EINECS-No.	:	231-634-8			
Symbol(s)	:	T+, C			
R-phrases)	:	R26/27/28, R35			
• Nonylphenol-polyethyleneglycol ether			Concentration [%] :	0.5 - 1.0	
CAS-No.	:	68412-54-4			
Symbol(s)	:	Xn, N			
R-phrases)	:	R22, R36/38, R51/53			

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

Suitable extinguishing media	:	e.g. water, CO ₂ , foam, powder, sand.
Specific hazards during fire fighting	:	Combustion of one pencil will not cause a major problem to health, safety and to the environment. When burning large amounts of pencils, hazardous fumes can be set free. Their composition is depending on the conditions of the combustion process and will not substantially differ from that resulting from merely burning plastic housings and caps of such pencils.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	See section : Exposure controls / personel protection.
Additional advice	:	Wash away residues with plenty of water.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	In normal conditions of storage, transport and use, the liquid will not leak from the pencil.
Advice on protection against fire and explosion	:	Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values

Components	CAS-No.	Values	Type	Revision Date	Basis
Formic acid	64-18-6	9 mg/m ³ 9.6 mg/m ³	TWA TWA	05 2001 2005	EU ELV EH40 WEL

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Hydrofluoric acid	7664-39-3	1.5 mg/m3	TWA	05 2003	EU ELV
		2.5 mg/m3	STEL	05 2003	EU ELV
		1.5 mg/m3	TWA	2005	EH40 WEL
		2.5 mg/m3	STEL	2005	EH40 WEL

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. Don't wear the correction pen on your body. Avoid that the tip of the wick comes into contact with the eyes and the skin. Always apply the protective cap to the pen, when the latter is not in use. Unproper handling, such as licking the wick, inhaling the corrector liquid or breaking and opening the pen, so as to set free the wick, is to be avoided. 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 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 glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

- Form : Liquid.
- Colour : Colourless.
- Odour : Pungent smell

Important Health Safety and Environmental Information

- Relative density (20 °C) : 1.100
- Solubility/qualitative : Miscible with water at all ratios.
- Melting point/range : $<$ 0 °C
- Boiling point/range : $>$ 100 °C
- Flash point : $>$ 62 °C

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

Toxic by inhalation, in contact with skin and if swallowed.
Causes burns.
Irritating to eyes.

Toxicity data specific for individual ingredients in their pure state:

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Acute oral toxicity

- Formic acid : LD50 rat 730 mg/kg
- gamma-Butyrolactone : LD50 rat 1,540 mg/kg
- Nonylphenol-polyethyleneglycol ether : LD50 rat 2,000 mg/kg

Acute inhalation toxicity

- Formic acid : LC50 rat 7.4 mg/l/ 4 h
- gamma-Butyrolactone : LC50 rat > 5.1 mg/l/ 4 h

Acute dermal toxicity

- gamma-Butyrolactone : LD50 guinea pig > 5,000 mg/kg

Other information

Hazard labelling of the corrector liquid: see section 15.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradation

- gamma-Butyrolactone : OECD 302B Inherent biodegradability > 90 % after 28 d

Ecotoxicity effects

Ecotoxicity data specific for individual ingredients in their pure state:

Toxicity to fish

- Formic acid : Species: Leuciscus idus (golden orfe)
LC50: > 46 mg/l/ 96 h
- gamma-Butyrolactone : Species: Leuciscus idus (golden orfe)
LC50: > 220 mg/l/ 96 h
- Nonylphenol-polyethyleneglycol ether : Species: Pisces (fish)
LC50: 10 mg/l/ 96 h

Toxicity to daphnia

- Formic acid : Species: Daphnia magna (water flea)
EC50: 34.2 mg/l/ 48 h
- gamma-Butyrolactone : Species: Daphnia magna (water flea)
EC50: > 500 mg/l/ 48 h
- Nonylphenol-polyethyleneglycol ether : Species: Daphnia magna
EC50: > 10 mg/l/ 48 h

Toxicity to algae

- Formic acid : Species: Scenedesmus subspicatus (algae)
EC50: 26.9 mg/l/ 72 h
- gamma-Butyrolactone : Species: Scenedesmus subspicatus (algae)
EC50: 360 mg/l/ 72 h

Toxicity to bacteria

- Formic acid : Species: Pseudomonas putida (bacteria)
EC50: 46.7 mg/l/ 17 h

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- gamma-Butyrolactone : Species: Pseudomonas putida (bacteria)
EC50: > 10,000 mg/l/ 17 h

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Used correction pencils are considered industrial waste. Refer to local provisions and regulations on disposal of such waste.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

Labelling according to EC Directives

Hazardous components which must be listed on the label :

- CAS-No. : 64-18-6 Formic acid
7664-39-3 Hydrofluoric acid
- Symbol(s) : T Toxic
C Corrosive
- R-phrases(s) : R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R36 Irritating to eyes.
- S-phrases(s) : S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 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).

16. OTHER INFORMATION

Section(s) changed compared to the previous issue: 13

Further information

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

- R22 Harmful if swallowed.
- R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
- R34 Causes burns.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R36/38 Irritating to eyes and skin.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

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This product is not manufactured by Agfa. The information disclosed in this Safety Data Sheet has been provided by the manufacturer.

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.