

G101c

SUBID:000000003467

Version 1
Revision Date 03-01-2006

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : G101c
 MSDS Number : 000000003467
 Use of the Substance/Preparation : Photographic developer concentrate
 Product code : EMZLE, FTRXC, FWXRF, L9UDM, LV1LM, FSC2N, FSC6V
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 100 Challenger Road
 Ridgefield Park, NJ 07660
 U.S.A.

Transport Emergency Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887
 Non-transportation Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Aqueous photographic developer concentrate, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>
• Potassium sulphite	10117-38-1	>= 5.0 - <= 10.0
• Potassium carbonate	584-08-7	>= 5.0 - <= 10.0
• Sodium sulphite	7757-83-7	>= 1.0 - <= 5.0
• Hydroquinone	123-31-9	>= 1.0 - <= 5.0
• Sodium bromide	7647-15-6	>= 1.0 - <= 5.0
• Water	7732-18-5	>= 60.0 - <= 80.0

SECTION 3. HAZARDS IDENTIFICATION

The product as a whole has not been tested. This hazard information is for the individual ingredients.

Emergency Overview		
Form	:	Liquid
Colour	:	Colourless to yellowish
Odour	:	Odourless.
WARNING !		
May cause respiratory tract irritation. May cause allergic respiratory reaction. May cause skin irritation. May cause allergic skin reaction. May cause eye irritation. Harmful if swallowed.		

Potential Health Effects

Primary Routes of Entry : Eye contact. Skin contact. Inhalation of vapours or mists.
 Accidental ingestion.

Acute health effects

Inhalation

- Potassium sulphite : May cause an allergic reaction in some asthmatics and sulfite sensitive individuals. Possible symptoms include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis.
- Potassium carbonate : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose.
- Sodium sulphite : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose. May cause an allergic reaction in some asthmatics and sulfite sensitive individuals. Possible symptoms include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis.
- Hydroquinone : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose.
- Sodium bromide : May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

Skin contact

- Potassium sulphite : May be irritating to the skin with symptoms of reddening and itching.
- Potassium carbonate : Can be irritating to the skin with symptoms of reddening, itching, and swelling.
- Sodium sulphite : May be irritating to the skin with symptoms of reddening and itching. May cause skin sensitization with symptoms of rash, itching, hives, and swelling.
- Hydroquinone : Can be irritating to the skin with symptoms of reddening, itching, and swelling. May cause skin sensitization with symptoms of rash, itching, hives, and swelling.
- Sodium bromide : Can be irritating to the skin with symptoms of reddening, itching, and swelling.

Eye contact

- Potassium sulphite : May be irritating to the eyes with symptoms of reddening, tearing and stinging.
- Potassium carbonate : Can be irritating to the eyes with symptoms of tearing, stinging, reddening, and swelling.
- Sodium sulphite : May be irritating to the eyes with symptoms of reddening, tearing and stinging.
- Hydroquinone : Can be irritating to the eyes with symptoms of tearing, stinging, reddening, and swelling. May cause corneal injury.
- Sodium bromide : Can be irritating to the eyes with symptoms of tearing, stinging, reddening, and swelling.

Ingestion

- Potassium sulphite : May be harmful if swallowed. Ingestion can liberate sulfurous acid. Symptoms may include nausea, abdominal pain, vomiting, and gastric hemorrhage.
May cause an allergic reaction in some asthmatics and individuals sensitive to this chemical. Possible symptoms include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure, and anaphylaxis.
- Sodium sulphite : May cause gastrointestinal irritation.
- Hydroquinone : May be harmful if swallowed with symptoms including nausea, vomiting, drowsiness, dizziness, disorientation, bluish skin color, and stomach pain.
- Sodium bromide : Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea. May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

Chronic health hazards

Inhalation

- Potassium sulphite : Prolonged or repeated exposure may result in adverse respiratory effects including cough, tightness of chest and shortness of breath
- Sodium sulphite : Repeated or prolonged exposure may cause an allergic respiratory reaction in previously exposed individuals.
- Hydroquinone : May cause pulmonary edema with symptoms of breathing difficulty and tightness of chest.

Skin contact

- Potassium sulphite : Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
- Sodium sulphite : Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
- Hydroquinone : Chronic intensive skin contact may cause dermatitis.

Eye contact

- Hydroquinone : Contact may cause brownish discoloration of conjunctiva and cornea. Repeated or prolonged eye contact may cause photophobia (sensitivity to light). Repeated exposure may cause intolerance of the eyes to light.

Carcinogenicity

The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

SECTION 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.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : All extinguishing media are suitable.
- Specific hazards during fire fighting : Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.
- Special protective equipment for fire-fighters : Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.
- Additional advice : Product is not combustible.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : See section 8.
- 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.

SECTION 7. HANDLING AND STORAGE

Handling

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

Storage

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

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values (US)

Components	CAS-No.	Values	Type	Revision Date	Basis
Hydroquinone	123-31-9	2 mg/m ³	TWA	2002	ACGIH
		2 mg/m ³	PEL	06 1993	OSHA Z1
		2 mg/m ³	TWA	1989	OSHA Z1A

Exposure controls

- Hygiene measures : General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.
- Respiratory protection : Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR10110.134.
- 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Form : Liquid
- Colour : Colourless to yellowish
- Odour : Odourless.
- Vapour pressure : 23.00 hPa at 20 °C (68 °F)
- Relative density : 1.245 at 20 °C (68 °F)
- pH (25 °C, 77 °F) : 10.8
- Melting point/range : $<$ 0 °C ($<$ 32 °F)
- Boiling point/range : $>$ 100 °C ($>$ 212 °F)
- Relative vapour density : Not applicable
- VOC content : 4.8 %, VOC content excluding water

SECTION 10. STABILITY AND REACTIVITY

- Stability : The product is stable under normal conditions of storage and use.
- Hazardous decomposition products : Hazardous decomposition products
None
- Thermal decomposition : Not applicable
- Conditions to avoid : Avoid contact with strong acids, strong alkalis and strong oxidizing agents. Remove all chemicals and rinse the processing tanks thoroughly with water before using any

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity data specific for individual ingredients in their pure state:

Acute oral toxicity

• Potassium sulphite	:	LD50 rat	2,610 mg/kg
• Potassium carbonate	:	LD50 rat	> 2,000 mg/kg
• Sodium sulphite	:	LD50 rat	3,560 mg/kg
• Hydroquinone	:	LD50 rat	320 mg/kg
• Sodium bromide	:	LD50 rat	3,500 mg/kg

Acute dermal toxicity

• Hydroquinone	:	LD50 cat	5,970 mg/kg
• Sodium bromide	:	LD50 rabbit	> 2,000 mg/kg

Carcinogenicity

- Hydroquinone : Formation of benign kidney tumors occurred only after nephropathy developed and only in one strain of male rat. Additional effects have been reported. Although an increase in leukemia was reported in the female F-344 rat, this result was not reproduced in a subsequent study. There was no evidence of cancer in male mice following chronic oral administration. Increases in primarily benign tumors were noted in female mice, although this finding was not reproduced in a subsequent study. No tumors were reported in mice following long-term dermal application.

Toxicity to reproduction

- Hydroquinone : Has not caused reproductive effects in male or female animals when administered orally at dose levels not causing systemic toxicity in the mother.

Mutagenicity

- Hydroquinone : Studies using the 'Ames' test were generally negative. There is some evidence for mutagenicity from studies in animals, in isolated cells taken from animals and plants, and in other microorganisms.

Teratogenicity

- Hydroquinone : Has not caused birth defects when administered orally at dose levels not causing systemic toxicity in the mother.

Chronic toxicity

- Hydroquinone : Adverse kidney effects have been observed primarily in one strain of male rat (F-344) following chronic administration of oral doses. Nephropathy did not occur in two other strains of rats, mice, or dogs.

Other information

There is insufficient scientific evidence for classifying hydroquinone as a suspected carcinogenic or mutagenic substance in humans. Epidemiologic studies over a period of 48 years, wherein -during manufacturing and use of hydroquinone- more than 800 human individuals were daily exposed at significant airborne concentrations (greater than the occupational threshold of 2 mg/m³), demonstrated that such exposure is not associated with the induction of cancer in humans. Hazard labelling of this preparation: see section 15.

SECTION 12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradation

- Hydroquinone : OECD 301D Assessment of biological degradability > 80 % after 28 d

Ecotoxicity effects

Ecotoxicity data specific for individual ingredients in their pure state:

Toxicity to fish

- Potassium sulphite : Species: Leuciscus idus (golden orfe)
LC50: > 220 mg/l/ 96 h
- Potassium carbonate : Species: Pimephales promelas (fathead minnow)
LC50: > 100 mg/l/ 96 h
- Sodium sulphite : Species: Leuciscus idus (golden orfe)
LC50: > 220 mg/l/ 96 h
- Hydroquinone : Species: Brachidanio rerio (zebra fish)
LC50: 0.1 mg/l/ 96 h
- Sodium bromide : Species: Lepomis macrochirus (bluegill sunfish)
LC50: > 1,000 mg/l/ 96 h

Toxicity to daphnia

- Potassium sulphite : Species: Daphnia magna (water flea)
EC50: 89 mg/l/ 48 h
- Potassium carbonate : Species: Daphnia magna (water flea)
EC50: 100 mg/l/ 48 h
- Sodium sulphite : Species: Daphnia magna (water flea)
EC50: 273 mg/l/ 48 h
- Hydroquinone : Species: Daphnia magna (water flea)
EC50: 0.3 mg/l/ 48 h
- Sodium bromide : Species: Daphnia magna (water flea)
EC50: > 1,000 mg/l/ 48 h

Toxicity to algae

- Hydroquinone : Species: Selenastrum capricornutum (algae)
EC50: 0.3 mg/l/ 72 h

Toxicity to bacteria

- Potassium sulphite : Species: Pseudomonas putida (bacteria)
EC10: 250 mg/l/ 17 h
- Sodium sulphite : Species: Pseudomonas putida (bacteria)
EC50: 770 mg/l/ 17 h

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Recover nonusable free liquid and/or contaminated water, and dispose of in an approved and permitted treatment system. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Discharge to sewer may require approval of permitting authority and may require pretreatment.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All of the components of this product are listed on the TSCA Inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

- Hydroquinone : Threshold planning quantity, lower value: 500 lbs
- : Threshold planning quantity, upper value: 10,000 lbs

US. SARA 311/312 Hazard Categories

Acute Health Hazard.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

- Hydroquinone : Reportable quantity: 100 lbs

US. California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

- | | <u>CAS-No.</u> | <u>Concentration [%]</u> |
|----------------|----------------|--------------------------|
| • Hydroquinone | 123-31-9 | >= 1.0 - <= 5.0 |

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

- | | <u>CAS-No.</u> | <u>Concentration [%]</u> |
|----------------|----------------|--------------------------|
| • Hydroquinone | 123-31-9 | >= 1.0 - <= 5.0 |

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

- | | <u>CAS-No.</u> | <u>Concentration [%]</u> |
|----------------|----------------|--------------------------|
| • Hydroquinone | 123-31-9 | >= 1.0 - <= 5.0 |

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

- | | <u>CAS-No.</u> | <u>Concentration [%]</u> |
|----------------|----------------|--------------------------|
| • Hydroquinone | 123-31-9 | >= 1.0 - <= 5.0 |

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian WHMIS Classification

- D1B : Toxic Material Causing Immediate and Serious Toxic Effects
- D2A : Very Toxic Material Causing Other Toxic Effects
- D2B : Toxic Material Causing Other Toxic Effects

Canadian Environmental Protection Act (CEPA)

This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

- HEDP-disodium salt

SECTION 16. OTHER INFORMATION

US. HMIS Rating

Health	:	2
Flammability	:	0
Reactivity	:	0

(0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe)

US. NFPA 704M Rating

Health	:	2
Flammability	:	0
Reactivity	:	0

(0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme)

Agfa Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Agfa Corporation as a customer service.

This MSDS is replacing Agfa MSDS number 033G.005

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this MSDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data.

G333c

SUBID:000000003469

Version 1
Revision Date 02-01-2006

Print Date 02-01-2006

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Identification of the substance/preparation

Product name : G333c
 MSDS Number : 000000003469
 Use of the Substance/Preparation : Photographic fixing concentrate
 Product code : EGCQT, FOE1U, FOEXO, FSE76, L9UEO, MUWCV
 Business group : GS

Company/Undertaking Identification

Agfa Corporation
 100 Challenger Road
 Ridgefield Park, NJ 07660
 U.S.A.

Transport Emergency Call CHEMTREC : +1 800 4249300
 International : +1 703 5273887
 Non-transportation Health Emergency Phone : +1 303 6235716
 Agfa Information Phone : +1 201 4402500

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Aqueous photographic fixing concentrate, mainly consisting of:

	<u>CAS-No.</u>	<u>Concentration [%]</u>	
• Ammonium thiosulphate	7783-18-8	>= 40.0	<= 60.0
• Sodium sulphite	7757-83-7	>= 1.0	<= 5.0
• Acetic acid	64-19-7	>= 1.0	<= 5.0
• Water	7732-18-5	>= 40.0	<= 60.0
• Sodium acetate	127-09-3	>= 1.0	<= 5.0

SECTION 3. HAZARDS IDENTIFICATION

The product as a whole has not been tested. This hazard information is for the individual ingredients.

Emergency Overview	
Form	: Liquid
Colour	: Colourless.
Odour	: Nearly odourless
WARNING !	
Irritating gases/fumes may be given off during burning or thermal decomposition.	
May cause respiratory tract irritation. May cause allergic respiratory reaction. May cause skin irritation. May cause allergic skin reaction. Causes eye irritation.	

Potential Health Effects

Primary Routes of Entry : Eye contact. Skin contact. Inhalation of vapours or mists.
 Accidental ingestion.

Acute health effects

Inhalation

- Ammonium thiosulphate : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose.
- Sodium sulphite : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose. May cause an allergic reaction in some asthmatics and sulfite sensitive individuals. Possible symptoms include bronchoconstriction, sweating, flushing, hives, rapid heart rate, decreased blood pressure and anaphylaxis.
- Acetic acid : Is expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose.

Skin contact

- Ammonium thiosulphate : May be irritating to the skin with symptoms of reddening and itching.
- Sodium sulphite : May be irritating to the skin with symptoms of reddening and itching. May cause skin sensitization with symptoms of rash, itching, hives, and swelling.
- Acetic acid : Skin sensitization is rare, but has been reported.

Eye contact

- Ammonium thiosulphate : May be irritating to the eyes with symptoms of reddening, tearing and stinging.
- Sodium sulphite : May be irritating to the eyes with symptoms of reddening, tearing and stinging.
- Acetic acid : Overexposure can cause severe irritation resulting in burning, stinging, reddening, tearing, swelling and possible injury to the cornea depending on the concentration.

Ingestion

- Ammonium thiosulphate : May cause gastrointestinal irritation.
- Sodium sulphite : May cause gastrointestinal irritation.
- Acetic acid : Swallowing high concentrations may cause severe injury.

Chronic health hazards

Inhalation

- Sodium sulphite : Repeated or prolonged exposure may cause an allergic respiratory reaction in previously exposed individuals.

Skin contact

- Sodium sulphite : Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Carcinogenicity

The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

SECTION 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.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : All extinguishing media are suitable.
- Specific hazards during fire fighting : In case of fire, thermal decomposition with emission of hazardous fumes is possible (e.g. sulphur dioxide and

ammonia).
 Special protective equipment for fire-fighters : Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.
 Additional advice : Product is not combustible.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : See section 8.
 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.

SECTION 7. HANDLING AND STORAGE

Handling

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

Storage

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

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values (US)

Components	CAS-No.	Values	Type	Revision Date	Basis
Acetic acid	64-19-7	10 ppm	TWA	2002	ACGIH
		15 ppm	STEL	2002	ACGIH
		25 mg/m ³	PEL	06 1993	OSHA Z1
		25 mg/m ³	TWA	1989	OSHA Z1A

Exposure controls

Hygiene measures : Observe normal precautions when handling chemicals. Avoid inhaling vapour. Keep away from foodstuffs, drinks and tobacco.
 Respiratory protection : Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR10110.134.
 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.
 Personal protective equipment : Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
Colour	: Colourless.
Odour	: Nearly odourless
Relative density	: 1.334 at 20 °C (68 °F)
pH (25 °C, 77 °F)	: 5.3
Melting point/range	: < 0 °C (< 32 °F)
Boiling point/range	: > 100 °C (> 212 °F)
Relative vapour density	: Not applicable
Flash point	: Not applicable
VOC content	: 3.1 % VOC content excluding water

SECTION 10. STABILITY AND REACTIVITY

Stability	: The product is stable under normal conditions of storage and use.
Hazardous decomposition products	: Hazardous decomposition products Sulphur dioxide and ammonia
Thermal decomposition	: Not applicable
Conditions to avoid	: Avoid contact with strong acids, strong alkalis and strong oxidizing agents. Remove all chemicals and rinse the processing tanks thoroughly with water before using any cleansing products.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity data specific for individual ingredients in their pure state:

Acute oral toxicity

• Ammonium thiosulphate	: LD50 rat	2,890 mg/kg
• Sodium sulphite	: LD50 rat	3,560 mg/kg
• Acetic acid	: LD50 rat	3,310 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
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Other information

In normal conditions of use, sulphur dioxide may be set free in concentrations well below the threshold limit value (TLV) of 2 ppm. Asthmatic individuals, however, may possibly be sensitive to concentrations as low as 0.1 ppm.

SECTION 12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradation

• Acetic acid	: OECD 301D Assessment of biological degradability 99 % after 30 d
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Ecotoxicity effects

Toxicity to fish

• Ammonium thiosulphate	: Species: Poecilia reticulata (guppy) LC50: > 200 mg/l/ 48 h
• Sodium sulphite	: Species: Leuciscus idus (golden orfe) LC50: > 220 mg/l/ 96 h

- Acetic acid : Species: Pimephales promelas (fathead minnow)
LC50: 88 mg/l/ 96 h

Toxicity to daphnia

- Sodium sulphite : Species: Daphnia magna (water flea)
EC50: 273 mg/l/ 48 h
- Acetic acid : Species: Daphnia magna (water flea)
EC50: 47 mg/l/ 24 h

Toxicity to algae

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

Toxicity to bacteria

- Sodium sulphite : Species: Pseudomonas putida (bacteria)
EC50: 770 mg/l/ 17 h
- Acetic acid : Species: Pseudomonas putida (bacteria)
EC10: 2,850 mg/l/ 16 h

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

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.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All of the components of this product are listed on the TSCA Inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories

Immediate Health Hazard. Delayed Health Hazard.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

- Acetic acid : Reportable quantity: 5,000 lbs

US. California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

	<u>CAS-No.</u>	<u>Concentration [%]</u>		
• Ammonium thiosulphate	7783-18-8	>= 40.0	-	<= 60.0
• Acetic acid	64-19-7	>= 1.0	-	<= 5.0

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

	<u>CAS-No.</u>	<u>Concentration [%]</u>		
• Ammonium thiosulphate	7783-18-8	>= 40.0	-	<= 60.0
• Acetic acid	64-19-7	>= 1.0	-	<= 5.0

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

	<u>CAS-No.</u>	<u>Concentration [%]</u>		
• Ammonium thiosulphate	7783-18-8	>= 40.0	-	<= 60.0
• Acetic acid	64-19-7	>= 1.0	-	<= 5.0

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

	<u>CAS-No.</u>	<u>Concentration [%]</u>		
• Acetic acid	64-19-7	>= 1.0	-	<= 5.0

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian WHMIS Classification

- D2A : Very Toxic Material Causing Other Toxic Effects
- D2B : Toxic Material Causing Other Toxic Effects

Canadian Environmental Protection Act (CEPA)

All components of this product are on the Canadian DSL list.

SECTION 16. OTHER INFORMATION

US. HMIS Rating

Health	:	2
Flammability	:	0
Reactivity	:	0

(0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe)

US. NFPA 704M Rating

Health	:	2
Flammability	:	0
Reactivity	:	0

(0 = Insignificant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme)

Agfa Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Agfa Corporation as a customer service.

This MSDS is replacing Agfa MSDS number 137G.006

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