

blood pressure, and anaphylaxis.

CHRONIC INHALATION.....: Persons who have been previously sensitized to sulfites should take precautions to prevent the inhalation of potassium sulfite.

ACUTE SKIN CONTACT.....: Potassium sulfite and hydroquinone can be irritating to the skin with symptoms of reddening, itching, and swelling. Potassium carbonate can be severely irritating with symptoms of reddening, itching, swelling, and possible burns. Hydroquinone may cause skin sensitization with symptoms of rash, itching, hives, and swelling.

CHRONIC SKIN CONTACT.....: Sensitization with dermatitis or hives may occur.

ACUTE EYE CONTACT.....: Potassium sulfite and hydroquinone can be irritating to the eyes with symptoms of tearing, stinging, reddening, and swelling. Potassium carbonate can be severely irritating with possible burns.

CHRONIC EYE CONTACT.....: Repeated exposure to hydroquinone may cause intolerance of the eyes to light. In addition, repeated overexposure to hydroquinone may cause pigment deposition, which can extend into the cornea with continued exposure to high concentrations. This pigment deposition does not impair vision.

ACUTE INGESTION.....: Ingestion of this product may cause gastrointestinal irritation. Hydroquinone may be harmful if swallowed with symptoms including nausea, vomiting, drowsiness, dizziness, disorientation, bluish skin color, and stomach pain.

CHRONIC INGESTION.....: None known.

OTHER EFFECTS OF EXPOSURE.....: See Section 11.

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

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with preexisting eye or skin conditions or impaired pulmonary function may be more susceptible to the effects of this product.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

FIRST AID FOR SKIN.....: In case of contact, remove contaminated clothing, immediately wash skin with plenty of water. Wash clothing before reuse. Call a physician if irritation persists.

FIRST AID FOR INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION.: Drink 1-2 glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention. Take this MSDS to physician.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: Noncombustible

EXTINGUISHING MEDIA.....: Material is not combustible. Use extinguishing media suitable for other combustible materials in the area.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

UNUSUAL FIRE / EXPLOSION HAZARDS: When heated to decomposition emission of toxic fumes of SO₂ is possible.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dike Spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Spill may be neutralized with powdered Citric Acid.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Store between 40 F (4.4 C) and 80 F (26 C). Preferred storage is at 68 F (20 C).

SHELF LIFE.....: N.A.

SPECIAL SENSITIVITY.....: Keep from freezing.

HANDLING/STORAGE PRECAUTIONS: Avoid eye and skin contact, and store in well ventilated area. Keep container tightly closed. Do not store with incompatible materials. Do not store or consume food, drink or tobacco in area where they may become contaminated with this material.

OTHER NOTES.....: Keep out of the reach of children.

8. PERSONAL PROTECTION:

PROTECTIVE CLOTHING REQUIREMENTS...: Splash protection required for eyes, e.g., eye glasses with side shields or goggles. For skin protection use chemical resistant gloves and aprons.

VENTILATION REQUIREMENTS.....: Use sufficient general room ventilation and/or local exhaust to maintain airborne levels of vapors below applicable exposure limits (see Section 2).

RESPIRATOR REQUIREMENTS.....: Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1010.134.

ADDITIONAL PROTECTIVE MEASURES.....: Emergency showers and eye wash stations should be made available. Educate and train employees in the safe use and handling of this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid

APPEARANCE.....: Clear

COLOR.....: Light Yellow

ODOR.....: Odorless

pH: Approx. 11.5

BOILING POINT.....: Approx. 212 F (100 C)

MELTING/FREEZING POINT....: Approx. 32 F (0 C)

SOLUBILITY IN WATER: Soluble

SPECIFIC GRAVITY: Approx. 1.29

BULK DENSITY.....: Not Applicable

VAPOR PRESSURE: Not Established

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.

HAZARDOUS POLYMERIZATION...: Will not occur.

INCOMPATIBILITIES.....: Strong Acids, oxidizers

INSTABILITY CONDITIONS.....: None known.

DECOMPOSITION PRODUCTS.....: In case of fire, oxides of sulfur, CO2, carbon monoxide and other potentially toxic fumes.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Hydroquinone

ACUTE TOXICITY

ORAL LD50.....: 320 mg/kg (Rat) (1)

SKIN EFFECTS.....: 2% skin - mild (Human); 5% skin - severe (Human) (1)

OTHER ACUTE EFFECTS: Oral-Human LDLO: 29 mg/kg (1)

CHRONIC TOXICITY.....: 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. (2)
CARCINOGENICITY.....: 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 of hydroquinone. 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 of hydroquinone. (2)
MUTAGENICITY.....: 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. (2)
DEVELOPMENTAL TOXICITY: Hydroquinone has not caused birth defects when administered orally at dose levels not causing systemic toxicity in the mother. (2)
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. (2)

1 Occupational Health Services Material Safety Data Sheet
2 Hydroquinone Health, Safety, and Environmental Information, Eastman Chemical Company

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: 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.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Aqueous Alkaline Solution
PRODUCT LABEL.....: G-153 Developer/Replenisher Part A

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

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

TSCA STATUS.....: On TSCA Inventory

CERCLA REPORTABLE QUANTITY..: Hydroquinone (Reportable Quantity = 100 lbs.)

SARA TITLE III:

SECTION 302 EXTREMELY

HAZARDOUS SUBSTANCES...: Hydroquinone (CAS# 123-31-9) - 5-10%

SECTION 311/312

HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard

SECTION 313

TOXIC CHEMICALS.....: Hydroquinone (CAS# 123-31-9) - 5-10%

RCRA STATUS.....: 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. (40 CFR 261.20-24)

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.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Water		
7732-18-5	65-70 %	PA3, NJ4
Potassium Sulfite		
10117-38-1	10-15 %	PA3, NJ4
Potassium Carbonate		
584-08-7	5-10 %	PA3, NJ4
Hydroquinone		
123-31-9	5-10 %	PA1, PA4, MA, NJ1, NJ3
Hydroxyethylethylenediaminetriacetate		
139-89-9	1-5 %	PA3, NJ4

- MA = Massachusetts Hazardous Substance List
- NJ1 = New Jersey Hazardous Substance List
- NJ3 = New Jersey Special Health Hazardous Substance List
- NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
- PA1 = Pennsylvania Hazardous Substance List
- PA3 = Pennsylvania Non-hazardous present at 3% or greater.
- PA4 = Pennsylvania Environmental Hazardous Substance List.

16. OTHER INFORMATION:

HMIS RATINGS: Health Flammability Reactivity Personal Prot

 2 0 0 B

 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

 B=Safety Glasses, Gloves

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

REASON FOR ISSUE.....: Changed Agfa MSDS #

PREPARED BY.....: S. Van Volkenburg

APPROVED BY.....: H. W. Gventer

APPROVAL DATE.....: 03/20/2000

SUPERSEDES DATE.....: 06/25/1998

MSDS NUMBER.....: 34274

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of AGFA Corporation. The data on this sheet relates only to the specific material designated herein. AGFA

Corporation assumes no legal responsibility for use or reliance upon these data.

MATERIAL SAFETY DATA SHEET

AGFA CORPORATION

100 Challenger Road
Ridgefield Park, NJ 07660

TRANSPORTATION EMERGENCY

CALL CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

NON-TRANSPORTATION

HEALTH EMERGENCY PHONE..: (303) 623-5716
AGFA INFORMATION PHONE..: (201) 440-2500

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: G-153 Developer/Replenisher Part B
PRODUCT CODE.....: ABC Code: FSE3X000 HT536000
CHEMICAL FAMILY.....: Aqueous Acidic Solution
BUSINESS GROUP.....: Technical Imaging Systems
AGFA MSDS NUMBER....: 202t.004

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
--------------------------------	-----------------	-------------------

***** HAZARDOUS INGREDIENTS *****

Acetic Acid 64-19-7	OSHA : 10.00 ppm TWA 25.00 mg/m3 TWA ACGIH: 10.00 ppm TWA 25.00 mg/m3 TWA	15-20 %
Diethylene glycol 111-46-6	OSHA : Not Established ACGIH: Not Established	45-50 %
Potassium Glutaraldehyde Bisulfite 68310-08-7	OSHA : Not Established ACGIH: Not Established	5-10 %

3. HAZARDS IDENTIFICATION:

* EMERGENCY OVERVIEW *
*
* WARNING! Color: Colorless; Form: Liquid; Clear; Odor: *
* Vinegar; Causes respiratory tract irritation; Causes skin *
* irritation; Causes eye irritation; Irritating gases/fumes *
* may be given off during burning or thermal decomposition. *

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Eye Contact; Skin Contact; Inhalation;
Ingestion

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE INHALATION.....: Overexposure to acetic acid vapors can cause irritation to the respiratory tract resulting in coughing, runny nose and sore throat. Potassium glutaraldehyde bisulfite may cause respiratory tract irritation with symptoms of coughing and sore throat. Inhalation of diethylene glycol vapors is unlikely due to its low vapor pressure.

However, if misted or handled at elevated temperatures, high concentrations of diethylene glycol can produce drowsiness, headache, dizziness, and nausea.

ACUTE SKIN CONTACT.....: Direct contact with concentrated acetic acid is corrosive to the skin with symptoms of burning, reddening, itching, and swelling. Skin sensitization with acetic acid is rare, but has been reported. Potassium glutaraldehyde bisulfite may cause skin irritation with symptoms of itching and reddening.

ACUTE EYE CONTACT.....: Overexposure to acetic acid can cause severe irritation and corrosion resulting in burning, stinging, reddening, swelling and possible injury to the cornea depending on the concentration of the acid. Potassium glutaraldehyde bisulfite may cause eye irritation with symptoms of stinging, tearing, and reddening.

ACUTE INGESTION.....: Swallowing concentrated acetic acid may cause severe injury. Ingestion of diethylene glycol can result in behavioral change, drowsiness, kidney and liver failure, and coma. The oral toxicity of diethylene glycol is greater in humans than in laboratory animals. The estimated single lethal dose-oral-human is 1.0 ml/kg.

CHRONIC EFFECTS OF EXPOSURE...: No applicable information was found concerning any adverse chronic health effects from overexposure to this product.

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

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with preexisting eye, skin, liver, or kidney conditions or impaired pulmonary function may be more susceptible to the effects of this product.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Immediately flush with plenty of running water for at least 15 minutes. Obtain medical attention.

FIRST AID FOR SKIN.....: Flush affected areas promptly with water for 15 minutes. Remove contaminated clothing. In case of continued irritation consult physician.

FIRST AID FOR INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION.: If swallowed, call a physician.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: Greater than 200 F (93 C)

EXTINGUISHING MEDIA.....: Material is not combustible. Use extinguishing media suitable for other combustible materials in the area.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Dike Spill. Prevent liquid from entering sewers, waterways, or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Spill may be neutralized with powdered Sodium Carbonate.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Store between 40 F (4.4 C) and 80 F (26 C). Preferred storage is at 68 F (20 C).

SHELF LIFE.....: N.A.

SPECIAL SENSITIVITY.....: Keep from freezing.

HANDLING/STORAGE PRECAUTIONS: Avoid eye and skin contact, and store in well-ventilated area. Keep container tightly closed. Do not store with incompatible materials. Do not store or consume food, drink or tobacco in area where they may become contaminated with this material.

OTHER NOTES.....: Keep out of the reach of children.

8. PERSONAL PROTECTION:

PROTECTIVE CLOTHING REQUIREMENTS...: Splash protection required for eyes, e.g., eye glasses with side shields or goggles. For skin protection use chemical resistant gloves and aprons.

VENTILATION REQUIREMENTS.....: Use sufficient general room ventilation and/or local exhaust to maintain airborne levels of vapors below applicable exposure limits (see Section 2).

RESPIRATOR REQUIREMENTS.....: Workplace ambient concentrations should be monitored and if recommended exposure limits are exceeded a NIOSH/MSHA approved respirator should be worn. If respirators are used, institute a program in accordance with OSHA standard 29CFR10.10.134.

ADDITIONAL PROTECTIVE MEASURES.....: Emergency showers and eye wash stations should be made available. Educate and train employees in the safe use and handling of this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid
APPEARANCE.....: Clear
COLOR.....: Colorless
ODOR.....: Vinegar
pH: Approx. 2.7
BOILING POINT.....: Greater than 230 F (110 C)
MELTING/FREEZING POINT....: Not Established
SOLUBILITY IN WATER: Soluble
SPECIFIC GRAVITY: Approx. 1.12
BULK DENSITY.....: Not Established
VAPOR PRESSURE: Not Established

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.
HAZARDOUS POLYMERIZATION...: Will not occur.
INCOMPATIBILITIES.....: Strong alkali, oxidizers, metals

INSTABILITY CONDITIONS.....: None known.
DECOMPOSITION PRODUCTS.....: In case of fire oxides of CO₂, carbon monoxide and other potentially toxic fumes can be generated due to thermal decomposition.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Acetic Acid
ACUTE TOXICITY
ORAL LD50.....: 3310 mg/kg (rat)
DERMAL LD50.....: 1060 mg/kg (rabbit) (1)
INHALATION LC50....: LC50: 5620 ppm/1 hr. (mouse) (2)
EYE EFFECTS.....: Corrosive
SKIN EFFECTS.....: Corrosive

1 Supplier Material Safety Data Sheet
2 Occupational Health Services Material Safety Data Sheet

TOXICITY DATA FOR: Diethylene Glycol
ACUTE TOXICITY

ORAL LD50.....: 12565 mg/kg (rat)
CHRONIC TOXICITY.....: This product contains diethylene glycol. Repeated ingestion of diethylene glycol over two years produced liver and kidney damage and bladder stones in laboratory rats.1

1 NIOSH-Registry of Toxic Effects of Chemical Substances

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: 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.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Acetic Acid
PRODUCT LABEL.....: G-153 Developer/Replenisher Part B

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: Acetic Acid Solution
HAZARD CLASS OR DIVISION: 8
UN/NA NUMBER.....: UN2790
PACKING GROUP: III
DOT PRODUCT RQ lbs (kgs).....: 25,000 lbs (11340.0 kgs)
HAZARD LABEL(s).....: Corrosive
HAZARD PLACARD(s).....: Corrosive
Limited Quantity Exception may apply to this product, for "inner packagings not over 1.0 L (0.3 gal) for liquids and 1.0 kg (2.2 lb) for solids". 173.154 (b) (1). Each package must conform to the packaging requirements of Subpart B of Part 173 and may not exceed 30 kg (66 lb) gross weight. For further information consult the 49 CFR.

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME.....: Acetic Acid Solution
HAZARD CLASS DIVISION NUMBER...: 8
UN NUMBER.....: UN2790
PACKAGING GROUP.....: III
HAZARD LABEL(s).....: Corrosive
HAZARD PLACARD(s).....: Corrosive

ICAO / IATA (AIR)

PROPER SHIPPING NAME.....: Acetic Acid Solution
HAZARD CLASS DIVISION NUMBER...: 8
UN NUMBER.....: UN2790
SUBSIDIARY RISK.....: None
PACKING GROUP.....: III
HAZARD LABEL(s).....: Corrosive
RADIOACTIVE?.....: Non-Radioactive
PASSENGER AIR - MAX. QTY.: 5 L
PASSENGER PACKING INSTRUCTION..: 818
CARGO AIR - MAX. QTY.: 60 L
CARGO AIR PACKING INSTRUCTION..: 820

15. REGULATORY INFORMATION:

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

TSCA STATUS.....: On TSCA Inventory

CERCLA REPORTABLE QUANTITY..: Acetic Acid (CAS# 64-19-7) 5,000 lbs.

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..: None

SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard

SECTION 313 TOXIC CHEMICALS.....: None

RCRA STATUS.....: When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24)

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.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Acetic Acid 64-19-7	15-20 %	PA1, PA4, MA, NJ1, NJ3
Diethylene glycol 111-46-6	45-50 %	PA1, NJ4
Water 7732-18-5	25-30 %	PA3, NJ4
Potassium Glutaraldehyde Bisulfite 68310-08-7	5-10 %	PA3, NJ4

MA = Massachusetts Hazardous Substance List
 NJ1 = New Jersey Hazardous Substance List
 NJ3 = New Jersey Special Health Hazardous Substance List
 NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
 PA1 = Pennsylvania Hazardous Substance List
 PA3 = Pennsylvania Non-hazardous present at 3% or greater.
 PA4 = Pennsylvania Environmental Hazardous Substance List.

16. OTHER INFORMATION:

HMIS RATINGS: Health Flammability Reactivity Personal Prot
 2 0 0 B
 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
 B=Safety Glasses, Gloves

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

REASON FOR ISSUE.....: Revised Transportation; Changed Agfa MSDS#
 PREPARED BY.....: S. Van Volkenburg
 APPROVED BY.....: H. W. Gventer
 APPROVAL DATE.....: 03/20/2000
 SUPERSEDES DATE.....: 07/24/1998
 MSDS NUMBER.....: 34433

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of AGFA Corporation. The data on this sheet relates only to the specific material designated herein. AGFA Corporation assumes no legal responsibility for use or reliance upon these

data.

respiratory tract with symptoms of coughing, sore throat, and runny nose. Potassium sulfite 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. Inhalation of diethylene glycol vapors is unlikely due to its low vapor pressure. However, if misted or handled at elevated temperatures, high concentrations of diethylene glycol can produce drowsiness, headache, dizziness, and nausea.

CHRONIC INHALATION.....: Persons who have been previously sensitized to sulfites should take precautions to prevent the inhalation of potassium sulfite.

ACUTE SKIN CONTACT.....: Potassium sulfite and hydroquinone can be irritating to the skin with symptoms of reddening, itching, and swelling. Potassium carbonate can be severely irritating with symptoms of reddening, itching, swelling, and possible burns. Hydroquinone may cause skin sensitization with symptoms of rash, itching, hives, and swelling.

CHRONIC SKIN CONTACT.....: Sensitization with dermatitis or hives may occur.

ACUTE EYE CONTACT.....: Potassium sulfite and hydroquinone can be irritating to the eyes with symptoms of tearing, stinging, reddening, and swelling. Potassium carbonate can be severely irritating with possible burns.

CHRONIC EYE CONTACT.....: Repeated exposure to hydroquinone may cause intolerance of the eyes to light. In addition, repeated overexposure to hydroquinone may cause pigment deposition, which can extend into the cornea with continued exposure to high concentrations. This pigment deposition does not impair vision.

ACUTE INGESTION.....: Ingestion of this product may cause gastrointestinal irritation. Ingestion of diethylene glycol can result in behavioral change, drowsiness, kidney and liver failure, and coma. The oral toxicity of diethylene glycol is greater in humans than in laboratory animals. The estimated single lethal dose-oral-human is 1.0 ml/kg. Hydroquinone may be harmful if swallowed with symptoms including nausea, vomiting, drowsiness, dizziness, disorientation, bluish skin color, and stomach pain.

CHRONIC INGESTION.....: None known.

OTHER EFFECTS OF EXPOSURE.....: See Section 11.

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

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Persons with preexisting eye, skin, liver, or kidney conditions or impaired pulmonary function may be more susceptible to the effects of this product.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

FIRST AID FOR SKIN.....: In case of contact, remove contaminated clothing, immediately wash skin with plenty of water. Wash clothing before reuse. Call a physician if irritation persists.

FIRST AID FOR INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

FIRST AID FOR INGESTION.: Drink 1-2 glasses of water. Never give anything by mouth to an unconscious person. Seek medical attention. Take this MSDS to physician.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: Noncombustible

EXTINGUISHING MEDIA.....: Material is not combustible. Use

extinguishing media suitable for other
combustible materials in the area.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate personnel to a safe area. Keep
personnel removed and upwind of fire. Wear self-contained breathing
apparatus.

UNUSUAL FIRE / EXPLOSION HAZARDS: When heated to decomposition emission of
toxic fumes of SO₂ is possible.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Use appropriate PERSONAL PROTECTIVE
EQUIPMENT during clean up. Dike Spill. Prevent liquid from entering
sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or
other absorbent material. Spill may be neutralized with powdered Citric
Acid.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Store between 40 F (4.4 C) and 80 F (26 C).

Preferred storage is at 68 F (20 C).

SHELF LIFE.....: N.A.

SPECIAL SENSITIVITY.....: Keep from freezing.

HANDLING/STORAGE PRECAUTIONS: Avoid eye and skin contact, and store in well
ventilated area. Keep container tightly closed. Do not store with
incompatible materials. Do not store or consume food, drink or tobacco in
area where they may become contaminated with this material.

OTHER NOTES.....: Keep out of the reach of children.

8. PERSONAL PROTECTION:

PROTECTIVE CLOTHING REQUIREMENTS...: Splash protection required for eyes, e.g.,
eye glasses with side shields or goggles. For skin protection use chemical
resistant gloves and aprons.

VENTILATION REQUIREMENTS.....: Use sufficient general room ventilation
and/or local exhaust to maintain airborne levels of vapors below applicable
exposure limits (see Section 2).

RESPIRATOR REQUIREMENTS.....: Under normal conditions of use, respirator
protection is not required. If respirators are used, institute a program
in accordance with OSHA standard 29CFR1010.134.

ADDITIONAL PROTECTIVE MEASURES.....: Emergency showers and eye wash stations
should be made available. Educate and train employees in the safe use and
handling of this product.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid

APPEARANCE.....: Clear

COLOR.....: Light Yellow

ODOR.....: Odorless

pH: Approx. 10.3

BOILING POINT.....: Approx. 212 F (100 C)

MELTING/FREEZING POINT....: Approx. 32 F (0 C)

SOLUBILITY IN WATER: Soluble

SPECIFIC GRAVITY: Approx. 1.14

BULK DENSITY.....: Not Applicable

VAPOR PRESSURE: Not Established

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.

HAZARDOUS POLYMERIZATION...: Will not occur.

INCOMPATIBILITIES.....: Strong Acids, oxidizers

INSTABILITY CONDITIONS.....: None known.

DECOMPOSITION PRODUCTS.....: In case of fire, oxides of sulfur, CO2, carbon monoxide and other potentially toxic fumes.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Diethylene Glycol

CHRONIC TOXICITY.....: This product contains diethylene glycol. Repeated ingestion of diethylene glycol over two years produced liver and kidney damage and bladder stones in laboratory rats.1

1 NIOSH-Registry of Toxic Effects of Chemical Substances

TOXICITY DATA FOR: Hydroquinone

ACUTE TOXICITY

ORAL LD50.....: 320 mg/kg (Rat) (1)

SKIN EFFECTS.....: 2% skin - mild (Human); 5% skin - severe (Human) (1)

OTHER ACUTE EFFECTS: Oral-Human LDLO: 29 mg/kg (1)

CHRONIC TOXICITY.....: 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. (2)

CARCINOGENICITY.....: 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 of hydroquinone. 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 of hydroquinone. (2)

MUTAGENICITY.....: 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. (2)

DEVELOPMENTAL TOXICITY: Hydroquinone has not caused birth defects when administered orally at dose levels not causing systemic toxicity in the mother. (2)

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. (2)

1 Occupational Health Services Material Safety Data Sheet

2 Hydroquinone Health, Safety, and Environmental Information, Eastman Chemical Company

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: 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.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Aqueous Alkaline Solution

PRODUCT LABEL.....: G-153C Developer Gevamic 60 Working Strength

DOT (DOMESTIC SURFACE)

HAZARD CLASS OR DIVISION: Non-Regulated

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

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

TSCA STATUS.....: On TSCA Inventory

CERCLA REPORTABLE QUANTITY..: Hydroquinone (Reportable Quantity = 100 lbs.)

SARA TITLE III:

SECTION 302 EXTREMELY

HAZARDOUS SUBSTANCES..: Hydroquinone (CAS# 123-31-9) - 1-5%

SECTION 311/312

HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard

SECTION 313

TOXIC CHEMICALS.....: Hydroquinone (CAS# 123-31-9) - 1-5%

RCRA STATUS.....: 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. (40 CFR 261.20-24)

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.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Water		
7732-18-5	75-80 %	PA3, NJ4
Potassium Sulfite		
10117-38-1	5-10 %	PA3, NJ4
Potassium Carbonate		
584-08-7	1-5 %	PA3, NJ4
COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Diethylene glycol		
111-46-6	1-5 %	PA1, NJ4
Hydroquinone		
123-31-9	1-5 %	PA1, PA4, MA, NJ1, NJ3

- MA = Massachusetts Hazardous Substance List
- NJ1 = New Jersey Hazardous Substance List
- NJ3 = New Jersey Special Health Hazardous Substance List
- NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
- PA1 = Pennsylvania Hazardous Substance List
- PA3 = Pennsylvania Non-hazardous present at 3% or greater.
- PA4 = Pennsylvania Environmental Hazardous Substance List.

16. OTHER INFORMATION:

HMIS RATINGS: Health Flammability Reactivity Personal Prot
 2 0 0 B
 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
 B=Safety Glasses, Gloves

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

REASON FOR ISSUE.....: Changed Agfa MSDS #
PREPARED BY.....: S. Van Volkenburg
APPROVED BY.....: H. W. Gventer
APPROVAL DATE.....: 02/21/2000
SUPERSEDES DATE.....: 06/25/1998
MSDS NUMBER.....: 34272

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of AGFA Corporation. The data on this sheet relates only to the specific material designated herein. AGFA Corporation assumes no legal responsibility for use or reliance upon these data.