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\* EMERGENCY OVERVIEW \*  
\* \*  
\* DANGER! Corrosive; Form: Powder; Odor: Odorless; Causes \*  
\* respiratory tract irritation; May cause allergic respiratory \*  
\* reaction; Causes skin burns; May cause allergic skin \*  
\* reaction; Causes eye burns; Irritating gases/fumes may be \*  
\* given off during burning or thermal decomposition. \*  
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POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Eye and skin contact, inhalation of vapors or mists, accidental ingestion.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

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

ACUTE INHALATION.....: The sodium sulfite, sodium metabisulfite, EDTA, sodium tetraborate, hydroquinone and potassium carbonate in this product are expected to be irritating to the respiratory tract with symptoms of coughing, sore throat, and runny nose. Sodium sulfite and sodium metabisulfite 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. Sodium hydroxide solutions are corrosive and its vapors are irritating to the mucous membranes of the respiratory tract. Inhalation of vapors results in coughing, choking and inflammation of the respiratory tract. The irritating nature of these vapors is typically sufficient to cause a person to leave areas of excessive concentration. 250 mg/m3 is immediately dangerous to life or health.

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

sulfite. Prolonged exposure to high concentrations of sodium hydroxide may cause discomfort and ulceration of the nasal passages.

ACUTE SKIN CONTACT.....: Sodium sulfite, sodium metabisulfite, EDTA, sodium tetraborate, 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. Direct contact with high concentrations of sodium hydroxide causes burns unless the product is washed off (alkalies penetrate the skin slowly).

CHRONIC SKIN CONTACT.....: Repeated contact with low concentrations of sodium hydroxide may cause skin drying and ulcerations.

ACUTE EYE CONTACT.....: Sodium sulfite, sodium metabisulfite, EDTA, sodium tetraborate, 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. Sodium hydroxide solutions are corrosive and are irritating to the mucous membranes of the eyes. Severe eye irritation will result from exposure to the solution. Initial symptoms may be discomfort, tearing and/or blurring of vision. Permanent eye damage including blindness may result if there is a delay in flushing it from the person's eyes.

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. Repeated or prolonged exposure to sodium hydroxide may result in lacrimation and chronic conjunctivitis.

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. If ingested, sodium hydroxide solutions are corrosive to the tissues with which it comes in contact. Ingestion may cause burning pain in the mouth, throat, esophagus and abdomen.

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.....: Flush affected areas promptly with water and soap 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.: 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 SO<sub>2</sub> is possible.

**6. ACCIDENTAL RELEASE MEASURES:**

SPILL OR LEAK PROCEDURES.....: Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up. Spills should be taken up mechanically and placed into labelled, closable containers. Avoid generation of dust. Spill area can be washed with water. Collect wash water for approved disposal. For disposal see section 13.

**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.....: None known.

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. For incompatibles see section 10.

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, e.g. made of neoprene, rubber or vinyl.

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.....: Powder

COLOR.....: Not Noted

ODOR.....: Odorless

BOILING POINT.....: Not Established

MELTING/FREEZING POINT....: Not Established

SOLUBILITY IN WATER .....: Soluble

SPECIFIC GRAVITY .....: 1.06

BULK DENSITY.....: Not Applicable

VAPOR PRESSURE .....: Not Established

VOC BY WEIGHT .....: 0 (EPA Method 24)

**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, CO<sub>2</sub>, 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 material 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.....: contains sodium hydroxide  
PRODUCT LABEL.....: Chempack Low Contrast Developer

DOT (DOMESTIC SURFACE)  
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PROPER SHIPPING NAME.....: Corrosive solid, basic, inorganic, n.o.s.  
HAZARD CLASS OR DIVISION .....: 8  
UN/NA NUMBER.....: UN3262  
PACKING GROUP .....: III  
DOT PRODUCT RQ lbs (kgs).....: None  
HAZARD LABEL(s).....: Corrosive  
HAZARD PLACARD(s).....: Corrosive  
OLimited 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)  
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PROPER SHIPPING NAME.....: Corrosive solid, basic, inorganic, n.o.s.  
HAZARD CLASS DIVISION NUMBER...: 8  
UN NUMBER.....: UN3262  
PACKAGING GROUP.....: III  
HAZARD LABEL(s).....: Corrosive  
HAZARD PLACARD(s).....: Corrosive

ICAO / IATA (AIR)  
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PROPER SHIPPING NAME.....: Corrosive solid, basic, inorganic, n.o.s.  
HAZARD CLASS DIVISION NUMBER...: 8  
UN NUMBER.....: UN3262  
SUBSIDIARY RISK.....: None  
PACKING GROUP.....: III  
HAZARD LABEL(s).....: Corrosive  
RADIOACTIVE?.....: Non-Radioactive  
PASSENGER AIR - MAX. QTY. ....: 25 kg.  
PASSENGER PACKING INSTRUCTION..: 822  
CARGO AIR - MAX. QTY. ....: 100 kg.  
CARGO AIR PACKING INSTRUCTION..: 823

**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 (CAS# 123-31-9) - 100 lbs.; Sodium Hydroxide (CAS# 1310-73-2) - 1,000 lbs.; EDTA (CAS# 60-00-4) - 5,000 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
Potassium Carbonate 584-08-7	15-30 %	PA3, NJ4
Hydroquinone 123-31-9	7-15 %	PA1, PA4, MA, NJ1, NJ3
Sodium tetraborate 1303-96-4	7-15 %	PA1, MA, NJ4
Sodium Sulfite 7757-83-7	20-40 %	PA3, NJ4
Sodium Metabisulfite 7681-57-4	7-15 %	PA1, MA, NJ1
Sodium hydroxide 1310-73-2	7-15 %	PA1, PA4, MA, NJ1, NJ3
EDTA 60-00-4	0.5-1.5 %	PA1, PA4, MA, NJ1

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  
                           3                   0                   0                   C  
 0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe  
 C=Safety Glasses, Gloves, Synthetic Apron

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.....: New Product  
PREPARED BY.....: R. Ruppel-Kerr  
APPROVED BY.....: Mike Patrick  
APPROVAL DATE.....: 05/23/2002  
SUPERSEDES DATE.....: None  
MSDS NUMBER.....: 45971

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