

EASTMAN KODAK COMPANY -- 139 7231, PT A, KODAK INDUSTREX FIXER AND REPLENISHER --  
6750-01-439-5468

===== Product Identification =====

Product ID:139 7231, PT A, KODAK INDUSTREX FIXER AND REPLENISHER

MSDS Date:03/02/2001

FSC:6750

NIIN:01-439-5468

Status Code:A

Kit Part:Y

MSDS Number: CLGWP

=== Responsible Party ===

Company Name:EASTMAN KODAK COMPANY

Address:343 STATE STREET

City:ROCHESTER

State:NY

ZIP:14650

Country:US

Info Phone Num:716-477-3194 MSDS :800- 242-2424

Emergency Phone Num:716-722-5151

CAGE:19139

=== Contractor Identification ===

Company Name:EASTMAN KODAK CO GOVERNMENT MARKETS CONTRACTS

Address:343 STATE ST

Box:City:ROCHESTER

State:NY

ZIP:14650-1115

Country:US

Phone:716-722-5151/(800) 242-2424

CAGE:19139

Company Name:EASTMAN KODAK CO US CUSTOMER SERVICE/GOVERNMENT SALES

Address:800 LEE RD

Box:City:ROCHESTER

State:NY

ZIP:14650-3129

Country:US

Phone:800-828-6203

CAGE:5K871

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Composition/Information on Ingredients  
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Ingred Name:AMMONIUM THIOSULFATE  
CAS:7783-18-8  
RTECS #:XN6465000  
= Wt:47.  
Other REC Limits:NONE RECOMMENDED

Ingred Name:SODIUM ACETATE  
CAS:127-09-3  
RTECS #:AJ4300010  
Minumum % Wt:1.  
Maxumum % Wt:5.  
Other REC Limits:NONE RECOMMENDED

Ingred Name:AMMONIUM BISULFITE (CERCLA)  
CAS:10192-30-0  
RTECS #:WT3595000  
= Wt:3.  
Other REC Limits:NONE RECOMMENDED  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:SODIUM TETRABORATE, PENTAHYDRATE  
CAS:12179-04-3  
RTECS #:VZ2540000  
Minumum % Wt:1.  
Maxumum % Wt:5.  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:10 MG/M3  
ACGIH TLV:1 MG/M3; 9596

Ingred Name:AMMONIUM ACETATE (CERCLA)  
CAS:631-61-8  
RTECS #:AF3675000  
= Wt:2.  
Other REC Limits:NONE RECOMMENDED  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:SODIUM BISULFITE (SASA III) (CERCLA)  
CAS:7631-90-5  
RTECS #:VZ2000000  
Minumum % Wt:1.  
Maxumum % Wt:5.  
Other REC Limits:NONE RECOMMENDED  
OSHA PEL:5 MG/M3  
ACGIH TLV:5 MG/M3; 9596  
EPA Rpt Qty

:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:WATER  
CAS:7732-18-5  
RTECS #:ZC0110000  
Minumum % Wt:40.  
Maxumum % Wt:45.

===== Hazards Identification =====

LD50 LC50 Mixture:LD50 (ORAL, RAT) IS NOT KNOWN.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:YES OSHA:NO

Health Hazards Acute and Chronic:INHALATION: EXPECTED TO BE LOW HAZARD  
FOR USUAL INDUSTRIAL OR COMMERCIAL HANDLING BY TRAINED PERSONNEL.  
IN CONT

ACT WITH STRONG ACIDS OR IF HEATED, SULFITES LIBERATE SULFUR  
DIOXIDE GAS. SULFUR DIOXIDE GAS IS IRRITATING TO RESPIRATORY  
TRACT.SOME ASTHMATICS OR HYPERSENSITIVE INDIVIDUALS MAY EXPERIENCE  
DIFFICULT BREATHING. EYES: NO SPECIFIC HAZARD KNOWN. MAY CAUSE  
TRANSIENT IRRITATION. SKIN: HARMFUL I F ABSORBED IN TOXIC AMOUNTS  
THROUGH DAMAGED OR ABRADED SKIN. MATERIAL HAS LOW POTENTIAL TO  
CAUSE ALLERGIC SKIN REACTIONS; CASES OF HUMAN SKIN SENSITIZATION  
HAVE BEEN REPORTED. IN

GESTION: HARMFUL IF SWALLOWED.

Explanation of Carcinogenicity:INTERNATIONAL AGENCY FOR RESEARCH ON  
CANCER (IARC): GROUP 1A, STRONG INORGANIC MISTS OR VAPORS  
CONTAINING SULFURIC ACID.- AMERICAN CONFERENCE OF GOVERNMENTAL  
INDUSTRIAL HYGIENISTS (ACGIH): SODIUM BISULFITE (A4); SULFURIC  
ACID (A2); STRONG INORGANIC MISTS. - NATIONAL TOXICOLOGY PROGRAM  
(NTP): NONE - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA):  
NONE

Effects of Overexposure:INHALATION: EXPECTED TO BE LO

W HAZARD FOR USUAL

INDUSTRIAL OR COMMERCIAL HANDLING BY TRAINED PERSONNEL. IN CONTACT  
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ALLERGIC SKIN REACTIONS; CASES OF HUMAN SKIN SENSITIZATION HAVE BEEN REPORTED. INGESTION: HARMFUL IF SWALLOWED.  
Medical Cond Aggravated by Exposure: SOME ASTHMATICS OR SULFITE-SENSITIVE INDIVIDUALS MAY EXPERIENCE WHEEZING, CHEST TIGHTNESS, STOMACH UPSET, HIVES, FAINTNESS, WEAKNESS AND DIARRHEA.

===== First Aid Measures =====

First Aid: INHALATION: IF SYMPTOMATIC, MOVE TO FRESH AIR. TREAT SYMPTOMATICALLY. GET MEDICAL ATTENTION IF SYMPTOMS PERSIST. EYES: ANY MATERIAL THAT CONTACTS THE EYE SHOULD BE WASHED OUT IMMEDIATELY WITH WATER. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR. SKIN: WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR. INGESTION: ONLY INDUCE VOMITING AT THE INSTRUCTION OF MEDICAL PERSONNEL. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

===== Fire Fighting Measures =====

Flash Point: NONE  
Extinguishing Media: FLOOD WITH WATER.  
Fire Fighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING. FIRE OR EXCESSIVE HEAT MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS.  
Unusual Fire/Explosion Hazard: SOLUTION CONTAINS A STRONG REDUCING AGENT. DRIED PRODUCT RESIDUE CAN ACT AS A REDUCING AGENT.

===== Accidental Release Measures =====

Spill Release Procedures: COLLECT IN A NONCOMBUSTIBLE CONTAINER FOR PROMPT DISPOSAL.  
FLUSH TO SEWER WITH LARGE AMOUNTS OF WATER. CLEAN SURFACE THOROUGHLY TO REMOVE RESIDUAL CONTAMINATION.

===== Handling and Storage =====

Handling and Storage Precautions: KEEP CONTAINER TIGHTLY CLOSED TO PREVENT THE LOSS OF WATER. KEEP AWAY FROM INCOMPATIBLE SUBSTANCES DO NOT STORE OR SHIP TOGETHER WITH COMBUSTIBLE MATERIAL. STORE IN ORIGINAL CONTAINER. KEEP AWAY FROM COMBUSTIBLE MATERIAL. REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.

Oth

er Precautions:AVOID PROLONGED OR REPEATED BREATHING OF MIST. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. KEEP FROM CONTACT WITH OXIDIZING MATERIALS, HIGHLY OXYGENATED OR HALOGENATED SOLVENTS, ORGANIC COMPOUNDS CONTAINING REDUCIBLE FUNCTIONAL GROUPS.

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===== Exposure Controls/Personal Protection =====

Respiratory Protection:NONE SHOULD BE NEEDED. A RESPIRATOR SHOULD BE WORN IF HAZARDOUS DECOMPOSITION PRODUCTS ARE LIKELY TO BE OR HAVE BEEN RELEASED. RESPIRATOR TYPE: FULL-FACE POSITIVE-PRESSURE AIR-SUPPLIED. RESPIRATORS ARE USED, A PROGRAM SHOULD BE INSTITUTED TO ASSURE COMPLIANCE WITH OSHA STANDARD 29 CFR 1910.134.

Ventilation:GOOD GENERAL VENTILATION (TYPICALLY 10 AIR CHANGES PER HOUR) SHOULD BE USED. VENTILATION RATES SHOULD BE MATCHED TO CONDITIONS.

Protective Gloves:WEAR IMPERVIOUS GLOVES AND PROTECTIVE CLOTHING APPROPRIATE FOR RISK OF EXPOSURE

Eye Protection:

WEAR SAFETY GLASSES WITH SIDE SHIELDS (OR GOGGLES).

Other Protective Equipment:EYE BATH, WASHING FACILITIES, SAFETY SHOWER

Work Hygienic Practices:IT IS A GOOD INDUSTRIAL HYGIENE PRACTICE TO MINIMIZE EYE CONTACT.

Supplemental Safety and Health

THIS MSDS IS FOR ONE PART OF A KIT (139 7231 KODAK INDUSTREX FIXER & REPLENISHER). THE HMIS SERIAL NUMBERS FOR ALL PARTS OF THIS KIT (INCLUDING THE ONE FOR THIS MSDS) ARE: CLGWR (WORKING SOL'N), CLGWQ, & CLGWP.

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Physical/Chemical Properties =====

HCC:C1

NRC/State Lic Num:NOT RELEVANT

Boiling Pt:>100.C, 212.F

Vapor Pres:68F: 24 MBAR (18 MM HG)

Vapor Density:0.6

Spec Gravity:1.33

pH:4.0

Evaporation Rate & Reference:NOT GIVEN

Solubility in Water:COMPLETE

Appearance and Odor:LIGHT YELLOW LIQUID - SLIGHT AMMONIA ODOR

Percent Volatiles by Volume:45 WT

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===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

BASES, STRONG ACIDS, SODIUM H

HYPOCHLORITE (BLEACH), STRONG OXIDIZING AGENTS, COMBUSTIBLE MATERIAL, HALOGENATED MATERIALS. CONTACT WITH BASE LIBERATES FLAMMABLE MATERIAL.

Stability Condition to Avoid: NONE SPECIFIED BY MANUFACTURER.

Hazardous Decomposition Products: CARBON DIOXIDE, CARBON MONOXIDE, OXIDES OF NITROGEN, OXIDES OF SULFUR. SULFUR DIOXIDE, AMMONIA, CHLORAMINE.

===== Toxicological Information =====

Toxicological Information: CONTAINS: SODIUM TETRABORATE, PENTAHYDRATE.

BASED ON REPEATED-DOSE INGESTION STUDIES IN ANIMALS, MAY CAUSE ADVERSE REPRODUCTIVE AND DEVELOPMENTAL EFFECTS. HOWEVER, THE DOSES ADMINISTERED WERE MANY TIMES THOSE TO WHICH HUMANS WOULD NORMALLY BE EXPOSED. INHALATION: EXPECTED TO BE A LOW HAZARD FOR USUAL INDUSTRIAL OR COMMERCIAL HANDLING BY TRAINED PERSONNEL. IN CONTACT WITH STRONG ACIDS OR IF HEATED, SULFITES MAY LIBERATE SULFUR DIOXIDE GAS. SULFUR DIOXIDE GAS IS IRRITATING TO THE RESPIRATORY TRACT. SOME ASTHMATICS OR HYPERSENSITIVE INDIVIDUALS MAY EXPERIENCE DIFFICULT BREATHING. SKIN: MAY BE HARMFUL IF ABSORBED IN TOXIC AMTS.

===== Ecological Information =====

Ecological: THE FOLLOWING PROPERTIES ARE ESTIMATED FROM THE COMPONENTS OF THE PREPARATIONS. POTENTIAL TOXICITY- FISH LC50 MG/L: >100, DAPHNID EC50 MG/L: >100, ALGAL IC50 MG/L: >100. ORGANICS READILY DEGRADABLE (>70%): YES (7 DAYS). POTENTIAL BIOACCUMULATION: LOG POW