

MATERIAL SAFETY DATA SHEET

MSDS DATE:06/30/2008

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PERFUSION WASH
SYNONYMS: N/A
PRODUCT CODES: 1222SK

MANUFACTURER: ELECTRON MICROSCOPY SCIENCES
DIVISION: 1560 INDUSTRY ROAD/P.O. BOX 550
ADDRESS: HATFIELD, PA 19440

EMERGENCY PHONE: 215-412-8400
CHEMTREC PHONE: 800-424 -9300

FAX PHONE: 215-412-8450

CHEMICAL NAME: N/A
CHEMICAL FAMILY: N/A

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>
CALCIUM CHLORIDE	10035-04-8
DEXTROSE	50-99-7
SUCROSE	57-50-1
SODIUM CHLORIDE	7647-14-5
SODIUM CACODYLATE	124-65-2

SODIUM CACODYLATE
OSHA-PEL-TWA 10ug(AS)m3
ACGIH-TLV-TWA 0.01mg(AS)m3

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT. CANCER HAZARD. CONTAINS ARSENIC WHICH CAN CAUSE CANCER. RISK OF CANCER DEPENDS ON DURATION AND LEVEL OF OF EXPOSURE. CAUSES LIVER AND KIDNEY DAMAGE. USE ONLY WITH ADEQUATE VENTILATION.

ROUTES OF ENTRY: EYES, SKIN, INGESTION, INHALATION

POTENTIAL HEALTH EFFECTS

EYES: MAY CAUSE EYE IRRITATION, MAY CAUSE CONJUNCTIVA DAMAGE.

SKIN: CAUSES SEVERE IRRITATION, BURNING. DERMAL ABSORPTION IS MORE LIKELY WITH ORGANIC ARSENIC; SYMPTOMS MAY PARALLEL INGESTION.

INGESTION: HIGHLY TOXIC! MAY CAUSE BURNING IN ESOPHAGUS, VOMITING, AND BLOODY DIARRHEA. SYMPTOMS OF COLD AND CLAMMY SKIN, LOW BLOOD PRESSURE, WEAKNESS, HEADACHES, AND COMA MAY FOLLOW. STRONG GARLIC ODOR ON BREATH, SWEAT AND URINE MAY OCCUR. MAY CAUSE DAMAGE TO LIVER AND KIDNEYS. A SUSPECTED FETAL TOXIN. DEATH MAY OCCUR FROM CIRCULATORY FAILURE. ESTIMATED LETHAL DOSE 120 MILLIGRAMS.

INHALATION: ARSENIC MAY CAUSE INFLAMMATION OF THE MUCOUS MEMBRANCES WITH COUGH AND FOAMY SPUTUM, RESTLESSNESS, SYSPNEA, CYANOSIS, AND RALES. SYMPTOMS LIKE THOSE FROM INGESTION EXPOSURE MAY FOLLOW. MAY CAUSE PULMONARY EDEMA.

ACUTE HEALTH HAZARDS: N/A

CHRONIC HEALTH HAZARDS: REPEATED OR PROLONGED SKIN CONTACT MAY CAUSE BRONZING OF THE SKIN, EDEMA, DERMATITIS, AND LESIONS. INHALATION OF THE DUST MAY CAUSE DAMAGE TO THE NASAL SEPTUM. MAY CAUSE HAIR AND WEIGHT LOSS, AND KIDNEY AND LIVER DAMAGE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

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CARCINOGENICITY

OSHA: N/A ACGIH: N/A NTP: N/A IARC: N/A
OTHER:

SECTION 4: FIRST AID MEASURES

EYES: FLUSH WITH WATER FOR 15 MINUTES IF IRRITATION OCCURS. SEEK MEDICAL ATTENTION

SKIN: WASH WITH SOAP AND WATER. IF IRRITATION OCCURS. SEEK MEDICAL ATTENTION.

INGESTION: IF VICTIM IS CONSCIOUS AND ALET, GIVE 2-4 CUPFULS OF MILK OR WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL AID.

INHALATION: REMOVE FROM EXPOSURE TO FRESH AIR IMMEDIATELY. GET MEDICAL AID IF COUGH OR OTHER SYMPTOMS APPEAR.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: N/A

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/A
(% BY VOLUME) **LOWER:**

FLASH POINT: N/A

F:

C:

METHOD USED: N/A

AUTOIGNITION TEMPERATURE: N/A

F:

C:

NFPA HAZARD CLASSIFICATION

HEALTH: 4 **FLAMMABILITY:** N/A **REACTIVITY:** 1
OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH: 4 **FLAMMABILITY:** N/A **REACTIVITY:** 1
PROTECTION:

EXTINGUISHING MEDIA: USE DRY CHEMICAL TO FIGHT FIRE

SPECIAL FIRE FIGHTING PROCEDURES:

UNUSUAL FIRE AND EXPLOSION HAZARDS: MATERIAL CAN SPONTANEOUSLY IGNITE (PYROPHORIC) WHEN EXPOSED TO AIR AT ANORMAL OR SLIGHTLY ELEVATED TEMPERATURES. THIS MATERIAL IN SUFFICIENT QUANTITY AND REDUCED PARTICLE SIZE IS CAPABLE OF CREATING A DUST EXPLOSION. FLAMMABLE SOLID.

HAZARDOUS DECOMPOSITION PRODUCTS: N/A

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: USE PROPER PERSONAL PROTECTIVE EQUIPMENT.

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SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: WASH THOROUGHLY AFTER HANDLING. USE WITH ADEQUATE VENTILATION. MINIMIZE DUST GENERATION AND ACCUMULATION. USE SPARK-PROOF TOOLS AND EXPLOSION PROOF EQUIPMENT. AVOID CONTACT WITH EYES, SKING, AND CLOTHING. KEEP CONTAINER TIGHTLY CLOSED. AVOID CONTACT WITH HEAT, SPARKS AND FLAME. AVOID INGESTION AND INHALATION.

OTHER PRECAUTIONS: KEEP AWAY FROM HEAT, SPARKS, AND FLAME. KEEP AWAY FROM SOURCES OF IGNITION. STORE IN A TIGHTLY CLOSED CONTAINER. STORE IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE SUBSTANCES.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: USE ADEQUATE VENTILATION TO KEEP AIRBORNE CONCENTRATIONS LOW.

VENTILATION: USE ADEQUATE VENTILATION TO KEEP AIRBORNE CONCENTRATIONS LOW.

RESPIRATORY PROTECTION: FOLLOW OSHA RESPIRATOR REGULATIONS .

EYE PROTECTION: WEAR APPROPRIATE PROTECTIVE EYEGLASSES OR SAFETY GOGGLES AS DESCRIBED BY OSHA'S EYE AND FACE PROTECTION REGULATIONS.

SKIN PROTECTION: WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT SKIN EXPOSURE. WEAR PROTECTIVE CLOTHING TO PREVENT SKIN EXPOSURE.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: WASH THOROUGHLY AFTER HANDLING. WASH CLOTHING BEFORE REUSE.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: TRANSPARENT

ODOR : N/A

PHYSICAL STATE: LIQUID

pH AS SUPPLIED: 7.4

pH (Other):

BOILING POINT: WATER (LIKE)

MELTING POINT: WATER (LIKE)

F:

C:

FREEZING POINT: N/A

F:

C:

VAPOR PRESSURE (mmHg): N/A

@

F:

C:

VAPOR DENSITY (AIR = 1): N/A

@

F: N/A

C:

@

F: N/A

C:

EVAPORATION RATE: N/A

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BASIS (=1): N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

SOLUBILITY IN WATER: WATER

PERCENT SOLIDS BY WEIGHT: N/A

PERCENT VOLATILE: N/A
BY WT/ BY VOL @

F:

C:

VOLATILE ORGANIC COMPOUNDS (VOC): N/A

WITH WATER:	LBS/GAL
WITHOUT WATER:	LBS/GAL

MOLECULAR WEIGHT: N/A

MOLECULAR FORMULA: IR

SECTION 10: STABILITY AND REACTIVITY

STABILITY: STABLE UNDER NORMAL TEMPERATURES AND PRESSURES

CONDITIONS TO AVOID (STABILITY): IMCOMPATIBLE MATERIALS, IGITION SOURCES, DUST GENERATION, EXCESS HEAT.

INCOMPATIBILITY (MATERIAL TO AVOID): ZINC,HALOGENS, SODIUM PEROXIDE, LEAD, TIN, INTERHALOGENS, POTASSIUM HYDROXIDE, NITRATE, POTASSIUM SULFATE, FLUORINE, CHLORINE.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: N/A

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

CONDITIONS TO AVOID (POLYMERIZATION): N/A

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: INVESTIGATED AS TUMORIGEN MUTAGEN, REPRODUCTIVE EFFECTOR.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: COMPLY WITH FEDERAL, STATE, LOCAL REGULATIONS.

RCRA HAZARD CLASS: N/A

SECTION 13: DISPOSAL CONSIDERATIONS (con't)

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SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION NOT REGULATED
PROPER SHIPPING NAME
HAZARD CLASS
ID NUMBER:
PACKING GROUP:
LABEL STATEMENT:

WATER TRANSPORTATION
PROPER SHIPPING NAME:
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENTS:

AIR TRANSPORTATION
PROPER SHIPPING NAME:
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENTS:

OTHER AGENCIES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS
TSCA (TOXIC SUBSTANCE CONTROL ACT): THIS MATERIAL DOES NOT CONTAIN ANY CLASS 2 OZONE DEPLETORS.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): N/A

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS: N/A

STATE REGULATIONS: IS NOT PRESENT ON STATE LISTS FROM CA, PA, MN, MA, FL, OR NJ.
CALIFORNIA NO SIGNIFICANT RISK LEVEL;

INTERNATIONAL REGULATIONS: EUROPEAN LABELING IN ACCORDANCE WITH EC DIRECTIVES,
HAZARDOUS SYMBOLS: F

RISK PHRASES: R11 HIGHLY FLAMMABALE

SAFETY PHRASES: S 9 KEEP CONTAINER IN A WELL VENTILATED PALCE

S16 KEEP AWAY FROM SOURCES OF IGNITION-NO SMOKING

S29 DO NOT EMPTY INTO DRAINS

S33 TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: N/A

PREPARATION INFORMATION: N/A

DISCLAIMER: IN COMPLIANCE WITH THE OSHA HAZARD COMMUNICATION STANDARD, 2.9 C.F.R 1910. 1200, WE ARE PROVIDING YOU WITH A MSDS FOR THE HAZARDOUS MATERIAL YOU ARE PURCHASING.

IT IS YOUR RESPONSIBILITY TO EDUCATE YOUR EMPLOYEES ON THE SAFE USE OF THE HAZARDOUS MATERIAL.

ELECTRON MICROSCOPY SCIENCES MAKES NO PRESENTATION AS TO THE ACCURACY OF THE INFORMATION IN THE MSDS. THE INFORMATION IS BELIEVED TO BE CORRECT; HOWEVER, YOU (THE CUSTOMER), SHOULD PERFORM YOUR OWN INVESTIGATION AND INDEPENDENT

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VERIFICATION. IF YOU RESELL THE PRODUCT, YOU ARE RESPONSIBLE TO FORWARD THE INFORMATION IN THE MSDS TO YOUR CUSTOMER.