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Safety Data Sheet

Date Effective: March 21, 2013

SPI# 09834-AB, 09834-CA
KODAK DEKTOL® Developer

Section 1: Identification

Chemical Name/Synonyms.....SPI# 09834-AB, 09834-CA KODAK DEKTOL® Developer

Emergencies
Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...
Worldwide phone: 1-(703)-527-3887
Worldwide FAX: 1-(703)-741-6090
Toll-free phone: 1-(800)-424-9300 USA only

Product or Trade Name.....SPI# 09834-AB, 09834-CA KODAK DEKTOL® Developer

CAS #'s.....5968-11-6
7757-83-7
123-31-9
55-55-0
68915-31-1
7758-02-3

Chemical Formula.....Mixture

Hazardous Material Information System USA
- Health.....2
- Fire Hazard.....0
- Reactivity.....0
- Personal Protection.....

NFPA Rating (estimated)
- Health.....3
- Flammability.....0
- Reactivity.....0

GHS Classification(s):
eye irritant: Category 2A
skin irritant: Category 2
Acute oral toxicity: Category 4
skin sensitizer: Category 1
Acute inhalation toxicity: Category 4
Specific target organ systemic toxicity single exposure (respiratory irritation): Category 3
Specific target organ systemic toxicity repeated exposure(Blood and kidney): Category 2
Acute aquatic toxicity: Category 3
Chronic aquatic toxicity: Category 3

GHS Hazard Symbol(s)

Signal Word: Warning

Hazard Statement(s):
H302: Harmful if swallowed
H315: Causes skin irritation
H317: May cause an allergic skin reaction
H319: Causes serious eye irritation
H332: Harmful if inhaled
H335: May cause respiratory irritation
H373: May cause damage to organs through prolonged or repeated exposure
H402: Harmful to aquatic life
H413: May cause long lasting harmful effects to aquatic life

Hazard Symbol(s)
[N] dangerous for the environment
[Xi] irritant
[Xn] harmful

Precautionary Statement(s):
P260: Do not breathe dust/fume/gas/mist/vapours/spray
P271: Use only outdoors or in a well-ventilated area
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330: Rinse mouth
P302: IF ON SKIN: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes
P333+313: If skin irritation or a rash occurs: Get medical advice/attention
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P314: Get Medical advice/attention if you feel unwell
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P337+313: If eye irritation persists get medical advice/attention
P403: Store in a well ventilated place
P405: Store locked up

Risk Phrase(s):
R20/22: Harmful by inhalation and if swallowed [Xn]
R36/37/38: Irritating to eyes, respiratory system and skin [Xi]
R43: May cause sensitisation by skin contact [Xn]
R48: Danger of serious damage to health by prolonged exposure [Xn]
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment [N]

Safety Phrase(s):
S1/2: Keep locked up and out of the reach of children
S7/9: Keep container tightly closed and in a well-ventilated place
S23: Do not breathe gas/fumes/vapour/spray
S24/25: Avoid contact with skin and eyes
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection
S61: Avoid release to the environment. Refer to special instructions/safety data sheet

Section 2: Composition

Concentrate

Components	CAS#	EC#	Percent
Sodium carbonate, monohydrate	5968-11-6	None	50-55
Sodium sulfite	7757-83-7	231-821-4	30-35
Hydroquinone	123-31-9	204-617-8	5-10
Bis(4-hydroxy-N-methylanilium) sulfate	55-55-0	200-237-1	1-5
Polyphosphoric acids, sodium salts	68915-31-1	272-808-3	1-5
Potassium bromide	7758-02-3	231-830-3	1-5

Working Solution

Components	CAS#	EC#	Percent
Water	7732-18-5	231-791-2	90-95
Sodium carbonate	497-19-8	207-838-8	1-5
Sodium sulfite	7757-83-7	231-821-4	1-5
Hydroquinone	123-31-9	204-617-8	<1
Bis(4-hydroxy-N-methylanilium) sulfate	55-55-0	200-237-1	<1

Section 3: Hazard Identification

CONTAINS: Sodium carbonate, monohydrate (5968-11-6), Sodium sulfite (7757-83-7), Hydroquinone (123-31-9), Bis(4-hydroxy-N-methylanilinium) sulfate (55-55-0), Polyphosphoric acids, sodium salts (68915-31-1), Potassium bromide (7758-02-3)

WARNING!

MAY LIBERATE SULFUR DIOXIDE
HARMFUL IF INHALED OR SWALLOWED
CAUSES SKIN AND EYE IRRITATION
DUST IRRITATING TO THE EYES AND RESPIRATORY TRACT
MAY CAUSE ALLERGIC SKIN REACTION
REPEATED EXPOSURE TO DUST MAY CAUSE EYE INJURY
MAY CAUSE BLOOD DISORDERS BASED ON ANIMAL DATA
MAY CAUSE KIDNEY DAMAGE BASED ON ANIMAL DATA
MAY CAUSE CYANOSIS BASED ON ANIMAL DATA

HMIS III Hazard Ratings: Health - 2*, Flammability - 0, Physical Hazard - 0

NFPA Hazard Ratings: Health - 3, Flammability - 0, Instability - 0

NOTE: HMIS III and NFPA 704 (2007) hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

Section 4: First Aid Measures

Inhalation: If inhaled, remove to fresh air. Get medical attention.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

Skin: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: If swallowed, DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Notes to physician: Absorption of this material into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value.

Section 5: Fire Fighting Measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: None (noncombustible), (see also Hazardous Decomposition Products sections.)

Unusual Fire and Explosion Hazards: None.

Section 6: Accidental Release Measures

Shovel into suitable container for disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

Section 7: Handling and Storage

Personal precautions: Do not breathe dust at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: No special technical protective measures required.

Storage: Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

Section 8: Exposure Controls and Personal Protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Hydroquinone	ACGIH	TWA	1 mg/m3
	OSHA	TWA	2 mg/m3
Sulfur dioxide	ACGIH	STEL	0.25 ppm
	OSHA	TWA	5 ppm, 13 mg/m3

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: N95 Particulate Filter. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: acid gas See Stability and Reactivity Section. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye protection: Wear safety glasses with side shields (or goggles).

Hand protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Section 9: Physical and Chemical Properties

Physical form:
Concentrate: solid
Working solution: liquid

Color:
Concentrate: white
Working solution: light yellow

Odor: odorless

Specific gravity (water = 1):
Concentrate: not available
Working solution: 1.04-1.06

Vapor pressure at 20 °C:
Concentrate: negligible
Working solution: 24 mbar (18 mm Hg)

Vapor density (air = 1):
Concentrate: not applicable
Working solution: 0.6

Volatile fraction by weight:
Concentrate: negligible

Working solution: 90-95%

Boiling point:
Concentrate: not applicable
Working solution: >100 °C

Melting point:
Concentrate: not available
Working solution: not applicable

Solubility in water:
Concentrate: appreciable
Working solution: complete

pH:
Concentrate: not applicable
Working solution: 10.2-10.4

Flash point:
Concentrate: not applicable, noncombustible solid
Working solution: None, noncombustible liquid

Section 10: Stability and Reactivity

Stability: Stable under normal conditions.
Incompatibility (concentrate): Acids. Contact with strong acids liberates sulfur dioxide.
Hazardous decomposition products (concentrate): Sulfur oxides
Hazardous Polymerization: Hazardous polymerization does not occur.

Section 11: Toxicological Information

Effects of Exposure
General advice:
Contains: Hydroquinone. There is insufficient evidence for classifying hydroquinone as a suspected carcinogenic or mutagenic substance in humans. No increases in cancer rates were observed in an epidemiology study which looked at mortality among more than 800 persons employed primarily in the manufacture of hydroquinone. Carcinogenicity studies in animals were inconclusive. Rats and mice were given hydroquinone by stomach tube or at high concentrations in the diet. Responses were not consistent across route of exposure, species or sex. The International Agency for Research on Cancer (IARC) has classified hydroquinone in Group 3, i.e., "not classifiable" as a carcinogen. Hydroquinone is generally negative in bacterial mutagenicity tests; there is evidence for the clastogenicity (chromosome breakage) of hydroquinone in vivo and in vitro. The relevance of chromosomal effects in test animals in predicting human risk is unclear.

Contains: Bis(4-hydroxy-N-methylanilinium) sulfate. Based on animal data, may cause adverse effects on the following organs/systems: blood, kidney, spleen. Based on animal data this material can produce methemoglobin which, in sufficient concentration, causes cyanosis, a blue-gray discoloration of the skin and lips caused by a reduced ability of the blood to carry oxygen.

Contains: Polyphosphoric acids, sodium salts. May cause kidney damage based on animal data.

Contains: Potassium bromide. Ingestion of bromide salts can cause nausea, vomiting, headache, irritability, delirium, memory loss, decreased appetite, joint pain, hallucinations, stupor, coma, and acne like rash on face, legs, and trunk.

Inhalation: Harmful if inhaled. Airborne dust irritating. May cause irritation to the mucous membranes and upper respiratory tract. 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.

Eyes: Causes eye irritation. Airborne dust irritating. Repeated exposure to dust may cause eye injury.

Skin: Causes skin irritation. May cause allergic skin reaction based on human experience. May cause skin depigmentation.

Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Acute Toxicity Data:
Oral LD50 (rat) 500-5000 mg/kg
Skin irritation: moderate

Section 12: Ecological Information

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity:
Toxicity to fish (LC50): 1-10 mg/L
Toxicity daphnia (EC50): 1-10 mg/L

Persistence and degradability: Not readily biodegradable.

Section 13: Disposal Considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14: Transport Information

US DOT:
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (hydroquinone, Bis(4-hydroxy-N-methylanilinium) sulfate)
UN number: 3077
ERG:177
Class: 9
Packaging group: III
Marine pollutant status: Marine pollutant
Marine Pollutants: hydroquinone, Bis(4-hydroxy-N-methylanilinium) sulfate

IMGD:
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (hydroquinone, Bis(4-hydroxy-N-methylanilinium) sulfate)
UN number: 3077
Class: 9
Packaging group: III
Marine pollutant status: Marine pollutant
Marine Pollutants: hydroquinone, Bis(4-hydroxy-N-methylanilinium) sulfate

Section 15: Regulatory Information

American Conference of Governmental Industrial Hygienists (ACGIH):
Confirmed Animal Carcinogen with Unknown Relevance to Humans: Hydroquinone

International Agency for Research on Cancer (IARC):
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

U.S. National Toxicology Program (NTP):
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

U.S. Occupational Safety and Health Administration (OSHA):
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

California Prop. 65:
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

CERCLA/SARA: hydroquinone
SARA 302: hydroquinone
SARA 313: hydroquinone

Hydroquinone CAS# 123-31-9 is listed on the following states Right to Know:
California, Massachusetts, Minnesota, New Jersey, Pennsylvania

Pennsylvania additionally lists the following chemicals on Right to Know:
Sodium carbonate, monohydrate (5968-11-6) and sodium sulfate (7757-83-7)

Section 16: Other Information

Disclaimer of Liability:

Caution! Do not use SPI Supplies products or materials in applications involving implantation within the body; direct or indirect contact with the blood pathway; contact with bone, tissue, tissue fluid, or blood; or prolonged contact with mucous membranes. Products offered by SPI Supplies are not designed or manufactured for use in implantation in the human body or in contact with internal body fluids or tissues. SPI Supplies will not provide to customers making devices for such applications any notice, certification, or information necessary for such medical device use required by US FDA (Food and Drug Administration) regulation or any other statute. SPI Supplies and Structure Probe, Inc. make no representation, promise, express warranty or implied warranty concerning the suitability of these materials for use in implantation in the human body or in contact with internal body tissues of fluids.

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