


1. Identification

Product identifier	KODAK HC-110 Developer
Other means of identification	
SDS number	PCD 8035
Product code	1058692
Recommended use	Photographic processing chemical. (developer/activator).
Recommended restrictions	For industrial use only.
Manufacturer/Importer/Supplier/Distributor information	
Supplier	Sino Promise Group
Address	336 Initiative Drive Rochester, NY 14624
e-mail	EHS-Questions@sinopromise.com
Emergency telephone number	1-800-424-9300 OR +1 703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Germ cell mutagenicity	Category 2
	Carcinogenicity	Category 2
	Reproductive toxicity	Category 1B
	Specific target organ toxicity, repeated exposure (oral)	Category 2 (kidney)
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. Suspected of causing cancer. May damage fertility or the unborn child. May cause damage to organs (kidney) through prolonged or repeated exposure by ingestion.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Hydroquinone		123-31-9	10 - < 20
Potassium sulphite		10117-38-1	10 - < 20
Diethylene glycol		111-46-6	5 - < 10
Sodium tetraborate, pentahydrate		12179-04-3	1 - < 3
4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone		13047-13-7	0.1 - 1
Diethanolamine		111-42-2	0.1 - 1
Potassium hydroxide		1310-58-3	0.1 - 1
1,2-Benzenediol		120-80-9	0 - 1

All concentrations are in percent by weight. Chemical ranges are provided in lieu of exact percentages, which are withheld as trade secrets.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Edema. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO ₂). Flush with plenty of water.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Use water spray to reduce vapors or divert vapor cloud drift.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Hydroquinone (CAS 123-31-9)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2-Benzenediol (CAS 120-80-9)	TWA	5 ppm	
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Hydroquinone (CAS 123-31-9)	TWA	1 mg/m3	
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	
Sodium tetraborate, pentahydrate (CAS 12179-04-3)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2-Benzenediol (CAS 120-80-9)	TWA	20 mg/m3
		5 ppm
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
Hydroquinone (CAS 123-31-9)	Ceiling	2 mg/m3
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3
Sodium tetraborate, pentahydrate (CAS 12179-04-3)	TWA	1 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Diethylene glycol (CAS 111-46-6)	TWA	10 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines**US - California OELs: Skin designation**

1,2-Benzenediol (CAS 120-80-9)	Can be absorbed through the skin.
Diethanolamine (CAS 111-42-2)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

1,2-Benzenediol (CAS 120-80-9)	Skin designation applies.
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US - Tennessee OELs: Skin designation

1,2-Benzenediol (CAS 120-80-9)	Can be absorbed through the skin.
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US ACGIH Threshold Limit Values: Skin designation

1,2-Benzenediol (CAS 120-80-9)	Can be absorbed through the skin.
Diethanolamine (CAS 111-42-2)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

1,2-Benzenediol (CAS 120-80-9)	Can be absorbed through the skin.
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Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Liquid.

Color Yellow

Odor Not available.

Odor threshold Not available.

pH 9.9

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.26

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Aluminum. Ammonia.
Hazardous decomposition products	Sulfur oxides. Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	May cause damage to organs through prolonged or repeated exposure by ingestion.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Edema.

Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

Components	Species	Test Results
Diethanolamine (CAS 111-42-2)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	12980 mg/kg
Diethylene glycol (CAS 111-46-6)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	11890 mg/kg
Oral		
LD50	Rat	12570 mg/kg

Components	Species	Test Results
Potassium sulphite (CAS 10117-38-1)		
<u>Acute</u>		
Dermal		
LD50	Guinea pig	> 20000 mg/kg
Sodium tetraborate, pentahydrate (CAS 12179-04-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 1055 mg/kg
Inhalation		
LC50	Rat	> 0.002 mg/l, 4 Hours
Oral		
LD50	Rat	2660 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
ACGIH sensitization		
HYDROQUINONE (CAS 123-31-9)	Dermal sensitization	
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	Suspected of causing genetic defects.	
Carcinogenicity	Suspected of causing cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
1,2-Benzenediol (CAS 120-80-9)	2B Possibly carcinogenic to humans.	
Diethanolamine (CAS 111-42-2)	2B Possibly carcinogenic to humans.	
Hydroquinone (CAS 123-31-9)	3 Not classifiable as to carcinogenicity to humans.	
Potassium sulphite (CAS 10117-38-1)	3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Not regulated.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	May damage fertility or the unborn child.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	May cause damage to organs (kidney) through prolonged or repeated exposure by ingestion.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Components	Species	Test Results
1,2-Benzenediol (CAS 120-80-9)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 3.5 mg/l, 96 hours
Diethanolamine (CAS 111-42-2)		
Aquatic		
Crustacea	EC50	Water flea (Ceriodaphnia dubia) 61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 100 mg/l, 96 hours

Components	Species		Test Results
Hydroquinone (CAS 123-31-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0.12 - 0.15 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.044 mg/l, 96 hours
Potassium hydroxide (CAS 1310-58-3)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	80 mg/l, 96 hours
Sodium tetraborate, pentahydrate (CAS 12179-04-3)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	104 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.		
Bioaccumulative potential			
Partition coefficient n-octanol / water (log Kow)			
1,2-Benzenediol			0.88
Diethanolamine			-1.43
Hydroquinone			0.59
Mobility in soil	No data available.		
Other adverse effects	The product contains volatile organic compounds which have a photochemical ozone creation potential.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D002: Waste Corrosive material [pH <=2 or >=12.5, or corrosive to steel] The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-Benzenediol (CAS 120-80-9)	Listed.
Diethanolamine (CAS 111-42-2)	Listed.

Hydroquinone (CAS 123-31-9) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.

SARA 304 Emergency release notification

Hydroquinone (CAS 123-31-9) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Hydroquinone	123-31-9	100		500	10000
Classified hazard categories	Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization Germ cell mutagenicity Carcinogenicity Reproductive toxicity Specific target organ toxicity (single or repeated exposure)				

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Hydroquinone	123-31-9	10 - < 20

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

1,2-Benzenediol (CAS 120-80-9)
Diethanolamine (CAS 111-42-2)
Hydroquinone (CAS 123-31-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65



WARNING: This product can expose you to chemicals including Diethanolamine, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,2-Benzenediol (CAS 120-80-9) Listed: July 15, 2003
Diethanolamine (CAS 111-42-2) Listed: June 22, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

1,2-Benzenediol (CAS 120-80-9)
Diethanolamine (CAS 111-42-2)
Sodium tetraborate, pentahydrate (CAS 12179-04-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-21-2019
Revision date	01-04-2021
Version #	04
HMIS® ratings	Health: 3* Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 3 Flammability: 0 Instability: 0

NFPA ratings



List of abbreviations

IARC Monographs. Overall Evaluation of Carcinogenicity
 CAS: Chemical Abstract Service.
 PBT: Persistent, bioaccumulative, toxic.
 vPvB: very Persistent, very Bioaccumulative.
 DNEL: Derived No Effect Level.
 PNEC: Predicted No Effect Concentration.
 TWA: Time Weighted Average.
 STEL: Short-term Exposure Limit.
 LD50: Lethal Dose 50%.
 LC50: Lethal Concentration 50%.
 EC50: Effective Concentration 50%.

Disclaimer

Sino Promise Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information

Product and Company Identification: Product and Company Identification