

# Material Safety Data Sheet

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## 1. Identification of the substance/mixture and of the company/undertaking

**Product name:** KODAK GBX Developer and Replenisher

**Product code:** 4037206

**Supplier:** KODAK AUSTRALASIA Pty. Ltd., 181 Victoria Parade, Collingwood, Victoria, 3066

For Chemical Emergency Information, in Australia call 1800 033111 (24 hour service Australia-wide); in New Zealand call 0800 734 607 (24 hour service); in Asia call +86 21 63500836

For Other Information, call 61 3 8417 8000.

**Synonyms:** PCD 4852

**Product Use:** photographic processing chemical (developer/activator), For industrial use only.

## 2. Hazards identification

**STATEMENT OF HAZARDOUS NATURE:** Hazardous according to criteria of Australian Safety and Compensation Council

**Harmful, Dangerous for the environment.** Limited evidence of a carcinogenic effect. Possible risk of irreversible effects. Irritating to eyes and skin. May cause sensitization by skin contact. Very toxic to aquatic organisms.

Contains no scheduled poisons

## 2. Composition/information on ingredients

Weight percent	Components (CAS-No.)
5 - 10	Potassium sulphite (10117-38-1)
5 - 10	Diethylene glycol (111-46-6)
5 - 10	Sodium sulphite (7757-83-7)
5 - 10	Hydroquinone (123-31-9)
1 - 5	Potassium carbonate (584-08-7)
1 - 5	Sodium bromide (7647-15-6)
0.1 - <1	4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (13047-13-7)
0.1 - <1	Potassium hydroxide (1310-58-3)

## 4. First aid measures

**Inhalation:** If symptomatic, move to fresh air. Get medical attention if symptoms occur.

**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:** Wash off with soap and water. Get medical attention if symptoms occur.

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**Ingestion:** If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

## 5. Fire-fighting measures

**Hazchem Code:** 3Z

**Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

**Hazardous Combustion Products:** Carbon oxides, sulphur oxides, (see also Hazardous Decomposition Products sections.)

**Unusual Fire and Explosion Hazards:** None.

## 6. Accidental release measures

Contaminated absorbent should be disposed of in accordance with local regulations. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

## 7. Handling and storage

**Personal precautions:** Avoid breathing mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

**Prevention of Fire and Explosion:** Keep from contact with oxidizing materials.

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

## 8. Exposure controls/personal protection

### Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Diethylene glycol	Exposure Standards	time weighted average	23 ppm 100 mg/m3
Hydroquinone		time weighted average	2 mg/m3
Diethylene glycol	WEL	time weighted average	23 ppm 101 mg/m3
Hydroquinone		time weighted average	2 mg/m3

**Ventilation:** Good general ventilation should be used. Ventilation should be sufficient so that applicable occupational exposure limits are not exceeded. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances.

**Respiratory protection:** None should be needed. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. A respirator must be worn if hazardous decomposition products are likely to be or have been released. Respirator type: full-face organic vapour/N95. 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.

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

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

## 9. Physical and chemical properties

**Physical form:** liquid

**Colour:** clear

**Odour:** odourless

**Specific gravity:** 1.24

**Vapour pressure (at 20.0 °C (68.0 °F)) :** 24 mbar (18.0 mm Hg)

**Vapour density:** 0.6

**Volatile fraction by weight:** 60 - 65 %

**Boiling point/boiling range:** > 35 °C (> 95.0 °F) (estimated)

**Water solubility:** complete

**pH:** 10.3

**Flash point:** > 93.33 °C (> 200.0 °F) (estimated)

**Flammability Limits:** Not specified

## 10. Stability and reactivity

**Stability:** Stable under normal conditions.

**Incompatibility:** Strong oxidizing agents, Acids Contact with strong acids liberates sulphur dioxide.

**Hazardous decomposition products:** Sulphur oxides.

**Hazardous Polymerization:** Hazardous polymerisation does not occur.

## 11. Toxicological information

### Effects of Exposure

**General advice:** Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

**Inhalation:** Expected to be a low hazard for recommended handling. In contact with strong acids or if heated, sulphites may liberate sulphur dioxide gas. Sulphur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing. Some asthmatics or hypersensitive individuals may experience difficulty breathing.

**Eyes:** Irritating to eyes.

**Skin:** Irritating to skin. May cause sensitization by skin contact.

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**Ingestion:** Expected to be a low ingestion hazard.

## Data for Hydroquinone (CAS 123-31-9):

### Acute Toxicity Data:

Oral LD50 (rat): 400 mg/kg

- Dermal LD50 (guinea pig): > 1,000 mg/kg
- Dermal absorption rate: 1.1 micrograms (s) / cm<sup>2</sup> / hour
- Skin irritation: slight
- Skin Sensitization (guinea pig): positive
- Eye irritation: moderate

### Mutagenicity/Genotoxicity Data:

Salmonella typhimurium assay (Ames test): negative (in presence and absence of activation)

- Chromosomal aberration assay: negative (in absence of activation)
- Chromosomal aberration assay: positive (in presence of activation)
- Sister chromatid exchange (SCE) assay: positive (in presence and absence of activation)

Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level.

### Repeated dose toxicity:

- Dermal (17-day, rat): NOEL; 3800 mg/kg/day
- Dermal (17-day): Lowest observable effect level; 4800 mg/kg/day

### Developmental Toxicity Data:

Oral (female rabbit): NOEL for developmental toxicity; 25mg/kg/day

## Data for PCD 6400 (a very similar material):

### Acute Toxicity Data:

Oral LD50 (rat): > 2,000 mg/kg

- Skin irritation: none
- Skin Sensitization: negative

## 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 to daphnia (EC50):	< 1 mg/l
Toxicity to algae (IC50):	10 - 100 mg/l
Toxicity to other organisms (EC50):	> 100 mg/l

**Persistence and degradability:** Readily biodegradable.

**Chemical Oxygen Demand (COD):** ca. 400 g/l

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**Biochemical Oxygen Demand (BOD):** ca. 146 g/l

## 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.

## 14. Transport information

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

**ADG:** UN-Number: UN3082  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
Class: 9  
Packaging group: III  
Marine Pollutant status: Marine pollutant

**IATA:** UN-Number: UN3082  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)  
Class: 9  
Packaging group: III  
Marine Pollutant status: Marine pollutant  
Marine Pollutant(s): hydroquinone

**IMDG:** UN-Number: UN3082  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)  
Class: 9  
Packaging group: III  
Marine Pollutant status: Marine pollutant  
Marine Pollutant(s): hydroquinone

For more transportation information, go to: [www.kodak.com/go/ship](http://www.kodak.com/go/ship).

## 15. Regulatory information

### Notification status

Regulatory List	Notification status
TSCA	Not all listed
DSL	Not all listed
NDSL	None listed
EINECS	Not all listed
ELINCS	None listed
NLP	None listed

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AICS	All listed
IECS	All listed
ENCS	All listed
ECI	Not all listed
NZIoC	All listed
PICCS	All listed

"Not all listed" indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Kodak.

**Poisons Schedule:** Not specified

**Australian Safety and Compensation Council:** none

### Other regulations

Australia National Model Regulations for the Control of Scheduled Carcinogenic Substances	No components listed
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## 16. Other information

The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture. The actual label information will depend upon the intended use of the product. Australian Safety and Compensation Council labeling appears for commercial/industrial use.

### Australian Safety and Compensation Council Labeling:

**Contains:** Hydroquinone 6.41%

**pH:** 9 - 12



**Symbol/Indication of Danger:**

Xn: Harmful  
N: Dangerous for the environment

**Risk Phrases:**

R40: Limited evidence of a carcinogenic effect.  
R68: Possible risk of irreversible effects.  
R36/38: Irritating to eyes and skin.

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R43: May cause sensitization by skin contact.  
R50: Very toxic to aquatic organisms.

**Safety Phrases:**

S24: Avoid contact with skin.  
S36/37: Wear suitable protective clothing and gloves.  
S57: Use appropriate container to avoid environmental contamination.

**National Health and Medical Research Council Standard for the Uniform Scheduling of Drugs and Poisons Labeling:**

**CONTAINS NO SCHEDULED POISONS**

**First aid:** No first aid instructions are recommended for labelling purposes.

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The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.

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R-1, S-2, F-1, C-0