

MATERIAL SAFETY DATA SHEET

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Version 2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name: INDUSTREX Single Part Developer Replenisher

Product code: 1043017

Supplier Carestream Health Canada, 8800 Dufferin Street, Suite 201, Vaughan, Ontario, L4K 0C5

For Emergency Health Information call: 800-424-9300

For other information contact: 1-866-792-5011

Product Use: Photographic chemical. Restricted to professional users.

2. HAZARDS IDENTIFICATION

Warning!

Emergency Overview

Corrosive to Metals
Causes eye irritation
May be harmful if swallowed
May cause allergic skin reaction.

Physical state liquid

Odor Odorless

Color colorless - light yellow

HMIS

Health Hazard - 2*

Flammability - 1

**Physical - 0
Hazard**

Potential Health Effects

Eyes

Irritating to eyes.

Skin

May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation.

Inhalation

No hazard from product as supplied. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide.

Ingestion

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chronic Effects

Chronic toxicity

Effects expected to be similar to those seen acutely.

Aggravated Medical Conditions

Preexisting eye disorders. Skin disorders. Respiratory disorders.

Environmental hazard

See Section 12 for additional Ecological Information. Upon rupture of sealed battery:. Contains a substance which is:.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Potassium sulfite	10117-38-1	10-20
Hydroquinone	123-31-9	5-10
Potassium carbonate	584-08-7	1-5
Sodium bromide	7647-15-6	1-5
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	140-01-2	1-5

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	>60

4. FIRST AID MEASURES

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point:	> 93.4 °C
Suitable Extinguishing Media	Carbon dioxide (CO ₂). Dry chemical. Foam.
Unsuitable Extinguishing Media	None.
Hazardous Combustion Products	Hazardous decomposition products due to incomplete combustion.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA **Health Hazard** - 2 **Flammability** - 1 **Stability** - 0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	For personal protection see section 8. Ensure adequate ventilation.
Methods for Containment	Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Other information See Section 12 for additional information.

7. HANDLING AND STORAGE

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Hydroquinone 123-31-9	TWA: 1 mg/m ³		TWA: 2 mg/m ³	

Occupational Exposure Controls

Engineering Measures Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits.

Personal Protective Equipment

General Information These recommendations apply to the product as supplied.

Respiratory protection Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Eye/Face Protection Safety glasses with side-shields. If splashes are likely to occur, wear:: Goggles.

Skin and body protection Wear suitable protective clothing.

Hand Protection Impervious gloves.

Other Protective Equipment Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid
ph 10.7
Flash point: > 93.4 °C
Boiling point/boiling range 100 °C

Odor Odorless
Color colorless - light yellow
Autoignition temperature: No information available

Vapor Pressure 24 mbar @ 20 °C
Vapor density 0.6
Density No information available
Water Solubility completely soluble
Melting point/range: No information available
Specific Gravity 1.26
Bulk Density: No information available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Incompatible products	Oxidizing agents. Strong acids.
Conditions to Avoid	Heat, flames and sparks.
Hazardous Decomposition Products	Carbon oxides, Sulfur oxides.
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Contact with strong acids liberates sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin	May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation.
Eyes	Irritating to eyes.
Inhalation	No hazard from product as supplied. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide.
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90,000 mg/kg (Rat)		
Hydroquinone	320 mg/kg (Rat)	> 4800 mg/kg (Rat)	
Potassium carbonate	1870 mg/kg (Rat)	>2000 mg/kg (Rabbit)	
Sodium bromide	3400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	
Chemical Name	Other applicable information		
Potassium sulfite	Mild skin irritation - Moderate skin irritation		

Hydroquinone	Moderate eye irritation Causes sensitization on guinea-pigs Mild skin irritation Can be absorbed through skin (1.1 ug/cm2/hr) Negative in bacterial mutagenicity assays. Evidence for mutagenicity (chromosome breakage, sister-chromatid exchanges) in in vivo and in vitro animal studies Hydroquinone has been classified as a Category 3 mutagen and carcinogen by the European Union based on testing of rats and mice given hydroquinone by stomach tube or at high dietary levels. The International Agency for Research on Cancer (IARC) under ranking for cancer potential has classified hydroquinone in Group 3, i.e. "not classifiable" as a carcinogen. In the European Union a Category 3 mutagen attracts the risk phrase R68 "Possible risk of irreversible effects" at concentrations above 1%, and a Category 3 carcinogen attracts the risk phrase R40 "Limited evidence of a carcinogenic effect" at concentrations above 1%. Exposure to products containing such substances should be controlled to below established control limits and special care should be taken with pregnant or breast-feeding women to ensure appropriate controls are in place to control the risk.
Sodium 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.

Subchronic toxicity No information available

Chronic toxicity Effects expected to be similar to those seen acutely.

Carcinogenicity Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydroquinone	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

Sensitization This mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. A very similar mixture was negative in dermal sensitization studies with and without prior sensitization to hydroquinone. Based on the results of these studies, this mixture is not expected to present a dermal sensitization hazard to humans.

mutagenic effects No specific testing was done on this product. Mutagenic testing of the hazardous ingredient in this product has resulted in some positive mutagenic results.

Reproductive toxicity Contains ingredients that are suspected reproductive hazards. However, based on available data the product should not be classified for reproductive effects.

Target Organ Effects Skin, Eyes, Respiratory system, Reproductive system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Very toxic to aquatic organisms.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Potassium sulfite		LC50 220 - 460 mg/L <i>Leuciscus idus</i> 96 h	
Hydroquinone	13.5 mg/L EC50 120 h (<i>Desmodesmus subspicatus</i>) 0.335 mg/L EC50 72 h (<i>Pseudokirchneriella subcapitata</i>)	LC50= 0.044 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50= 0.044 mg/L <i>Pimephales promelas</i> 96 h LC50 0.1 - 0.18 mg/L <i>Pimephales promelas</i> 96 h LC50= 0.17 mg/L <i>Brachydanio rerio</i> 96 h	EC50 = 0.29 mg/L 48 h (<i>Daphnia magna</i>)
Sodium bromide	5800 - 24000 mg/L EC50 96 h (<i>Scenedesmus pannonicus</i>)	LC50 24000 - 96000 mg/L <i>Oryzias latipes</i> 96 h LC50= 24000 mg/L <i>Oryzias latipes</i> 96 h LC50 16000 - 24000 mg/L <i>Poecilia reticulata</i> 96 h LC50= 16000 mg/L <i>Poecilia reticulata</i> 96 h LC50 15614 - 17428 mg/L <i>Pimephales promelas</i> 96 h LC50> 1000 mg/L <i>Lepomis macrochirus</i> 96 h LC50 0.054 - 0.081 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50> 1000 mg/L <i>Oncorhynchus mykiss</i> 96 h	EC50 5800 - 48000 mg/L 48 h (<i>Daphnia magna</i>) EC50 5700 - 10800 mg/L 48 h (<i>Daphnia magna</i>)
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	2.6 mg/L EC50 72 h (<i>Desmodesmus subspicatus</i>)	LC50> 300 mg/L <i>Pimephales promelas</i> 96 h LC50 1005 - 1250 mg/L <i>Lepomis macrochirus</i> 96 h	EC50 > 500 mg/L 48 h (<i>Daphnia magna</i>)

Persistence and degradability No data is available on the product itself. Expected to be readily biodegradable.

Bioaccumulation: - No information available

Mobility - No information available

Chemical Name	log Pow
Hydroquinone	0.5
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	-3.05

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated packaging Do not re-use empty containers. Dispose of in accordance with local regulations.

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.

DOT

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	Hydroquinone, Potassium carbonate
Hazard class	8

Packing Group	III
Special Provisions	IB3, T7, TP1, TP28
Emergency Response Guide Number	154

TDG

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	Hydroquinone, Potassium carbonate
Hazard class	8
Packing Group	III

ICAO/IATA

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	Hydroquinone, Potassium carbonate
Hazard class	8
Packing Group	III
ERG Code	8L
Special Provisions	A3, A803

IMDG/IMO

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	Hydroquinone, Potassium carbonate
Hazard class	8
Packing Group	III
EmS No.	F-A, S-B
Special Provisions	223, 274
Marine pollutant	Hydroquinone

This product meets the requirements of the limited quantity exemption. The shipping case will be marked as a limited quantity. It does not require other labeling or placarding except if transported by aircraft. For transportation information, go to: <http://ship.carestreamhealth.com>.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

E Corrosive material
D2A Very toxic materials
D2B Toxic materials



International Inventories

TSCA	Complies
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply

ENCS	Complies
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Complies
NZIoC	Does not comply

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

16. OTHER INFORMATION

Disclaimer for Label

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.



Warning!

- Contains:

Hazardous Components

Chemical Name	CAS-No	Weight %
Potassium sulfite	10117-38-1	10-20
Hydroquinone	123-31-9	5-10
Potassium carbonate	584-08-7	1-5
Sodium bromide	7647-15-6	1-5
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	140-01-2	1-5

Corrosive to Metals. Causes eye irritation. May be harmful if swallowed. May cause allergic skin reaction.

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Additional information is given in the Material Safety Data Sheet.

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text