Carestream

SAFETY DATA SHEET

Issuing Date no data available **Revision Date** 6 September 2016 **Version** 5.040001

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

1.1 Product identifier

Product code: 5315288

Product name: INDUSTREX Single Part Developer Replenisher

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Photographic chemical. Restricted to professional users.
Uses advised against No information available

1.3 Details of the supplier of the safety data sheet

Supplier Carestream Health UK Ltd., 1
Park Lane, Hemel Hempstead,
Hertfordshire, HP2 4YG

For further information, please contact:

Product Information +44 (0)870 6000245
E-mail Address For environment, health and safety information, email: EMEAEHS@carestream.com

1.4 Emergency telephone number

Emergency telephone CHEMTREC International 1-703-527-3887
CHEMTREC UK +(44)-870-8200418

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 5
Serious eye damage/eye irritation	Category 1
Skin sensitisation	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Acute aquatic toxicity	Category 1
Corrosive to metals	Category 1

- H303 - May be harmful if swallowed
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H341 - Suspected of causing genetic defects
- H351 - Suspected of causing cancer
- H400 - Very toxic to aquatic life
- H290 - May be corrosive to metals

2.2 Label elements

Danger

Hazard Statements

H303 - May be harmful if swallowed
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life
H290 - May be corrosive to metals

Precautionary Statements - EU (§28, 1272/2008)

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/ physician
P280 - Wear eye protection/ face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P406 - Store in corrosive resistant polyethylene container with a resistant inliner

2.3 Other information

Environmental properties Very toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2. Mixtures

Chemical Name	EC-No	**CAS-No**	**Weight percent**	**Classification according to Regulation (EC) No. 1272/2008 [CLP]**	REACH Registration Number
Water	Present	7732-18-5	>65	no data available	no data available
Potassium sulfite	Present	10117-38-1	10-20	no data available	01-2119537319-34
Hydroquinone	Present	123-31-9	3-6	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 2 (H351) Aquatic Acute 1 (H400)	01-2119524016-51
Diethylene glycol	Present	111-46-6	1-5	Acute Tox. 4 (H302)	01-2119457857-21
Potassium carbonate	Present	584-08-7	1-5	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT Single Exp. 3 (H335)	01-2119532646-36

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. If symptoms persist, call a doctor. Do not breathe dust/fume/gas/mist/vapours/spray.

Eye contact Keep eye wide open while rinsing. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. If symptoms persist, call a doctor. Immediate medical attention is not required. May cause an allergic skin reaction.

Ingestion Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a doctor. Rinse mouth. Clean mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

Inhalation Move to fresh air. Consult a physician. Immediate medical attention is not required. If symptoms persist, call a doctor.

Protection of first-aiders Use personal protective equipment.

4.2 Most important symptoms and effects, both acute and delayed

Main symptoms May cause an allergic skin reaction. Causes serious eye irritation. Irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician May cause sensitisation of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media
Cool containers / tanks with water spray. Carbon dioxide (CO_2). Dry chemical. Foam.

Extinguishing media which shall not be used for safety reasons
No information available

5.2 Special hazards arising from the substance or mixture

Special Hazard
Hazardous decomposition products due to incomplete combustion.

5.3 Advice for fire-fighters

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

See Section 12 for additional information.

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3 Methods and material for containment and 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.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Prevent the formation of vapours, mist and aerosols. Use only in area provided with appropriate exhaust ventilation. Avoid breathing vapours or mists. Ensure adequate ventilation.

Prevention of fire and explosion Do not use compressed air for filling, discharging or handling.

7.2 Conditions for safe storage, including any incompatibilities

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

Materials to Avoid Strong acids. Strong oxidising agents.

7.3 Specific end uses

Exposure scenario No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure Limits

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
Hydroquinone 123-31-9		STEL 1.5 mg/m³ TWA 0.5 mg/m³	TWA 2 mg/m³ C2 M2	TWA 2 mg/m³ S+	
Diethylene glycol 111-46-6		STEL 69 ppm STEL 303 mg/m³ TWA 23 ppm TWA 101 mg/m³			AGW 10 ppm AGW 44 mg/m³
Chemical Name	**Italy**	**Portugal**	**The Netherlands**	**Finland**	**Denmark**
Hydroquinone 123-31-9		TWA 2 mg/m³ S+ C(A3)		TWA 0.5 mg/m³ STEL 2 mg/m³	Ceiling 2 mg/m³
Diethylene glycol 111-46-6					TWA 2.5 ppm TWA 11 mg/m³
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
Hydroquinone 123-31-9	Sensitizer STEL 4 mg/m³ TWA 2 mg/m³ B	S+ H* TWA 2 mg/m³ C3 STEL 2 mg/m³	TWA 1 mg/m³ STEL 2 mg/m³	TWA 0.5 mg/m³ K** A+ STEL 1.5 mg/m³	TWA 0.5 mg/m³ STEL 1.5 mg/m³

		M3			
Diethylene glycol 111-46-6	STEL 40 ppm STEL 176 mg/m³ TWA 10 ppm TWA 44 mg/m³	SS-C** TWA 10 ppm TWA 44 mg/m³ STEL 40 ppm STEL 176 mg/m³	TWA 10 mg/m³		TWA 23 ppm TWA 100 mg/m³ STEL 69 ppm STEL 300 mg/m³
Chemical Name	**Sweden**	**Greece**	**Belgium**	**Hungary**	**Czech Republic**
Hydroquinone 123-31-9	LLV 0.5 mg/m³ STV 1.5 mg/m³ S+	TWA 2 mg/m³ STEL 4 mg/m³	TWA 1 mg/m³		TWA 2 mg/m³ Ceiling 4 mg/m³ S* Senzibilizátory
Diethylene glycol 111-46-6	LLV 10 ppm LLV 45 mg/m³ STV 20 ppm STV 90 mg/m³ A*				
Potassium carbonate 584-08-7					TWA 5 mg/m³ Ceiling 10 mg/m³
Chemical Name	**Luxembourg**	**Russia**	**Estonia**	**Latvia**	**Slovenia**
Hydroquinone 123-31-9		S* MAC 1 mg/m³	Sensibilisaatorid STEL 1.5 mg/m³ TWA 0.5 mg/m³		STEL 2 mg/m³ TWA 2 mg/m³ M2 C2
Diethylene glycol 111-46-6		MAC 10 mg/m³	A* STEL 20 ppm STEL 90 mg/m³ TWA 10 ppm TWA 45 mg/m³	TWA 10 mg/m³	STEL 40 ppm STEL 176 mg/m³ TWA 10 ppm TWA 44 mg/m³
Potassium carbonate 584-08-7		MAC 2 mg/m³		TWA 2 mg/m³	
Chemical Name	**Slovakia**	**Croatia**	**Turkey**	**Romania**	**Bulgaria**
Hydroquinone 123-31-9	S* TWA 2 mg/m³	TWA 0.5 mg/m³		STEL 2 mg/m³ TWA 1 mg/m³	TWA 2.0 mg/m³
Diethylene glycol 111-46-6	Ceiling 90 mg/m³ TWA 10 ppm TWA 44 mg/m³	TWA 23 ppm TWA 101 mg/m³		STEL 184 ppm STEL 800 mg/m³ TWA 115 ppm TWA 500 mg/m³	TWA 10 mg/m³
Chemical Name	**Lithuania**	**European Union**	**The United Kingdom**	**France**	**Spain**
Hydroquinone 123-31-9	Alergenas+ Mutagenas Kancerogenas TWA 0.5 mg/m³ STEL 1.5 mg/m³				
Diethylene glycol 111-46-6	S* TWA 10 ppm TWA 45 mg/m³ STEL 20 ppm STEL 90 mg/m³				
Potassium carbonate 584-08-7	TWA 2 mg/m³				

Biological occupational exposure limits
No information available

Derived No Effect Level No information available
Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

General Information	These recommendations apply to the product as supplied.
Respiratory protection	None under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Eye Protection	Tightly fitting safety goggles. If splashes are likely to occur, wear:. Face-shield.
Skin and body protection	Lightweight protective clothing. Apron. Impervious gloves. Long sleeved clothing. Wear suitable protective clothing. Antistatic boots.
Hand Protection	Protective gloves.
Hygiene measures	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.
Environmental Exposure Controls	Do not allow material to contaminate ground water system.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	liquid	**Odour**	Odourless
Colour	colourless light yellow	**Odour Threshold**	No information available

Property	**Values**	**Remarks/ - Method**
pH	10.8	No information available
Melting point/range:		No information available
Freezing Point:		No information available
Boiling point/boiling range		No information available
Flash point:	> 93.4 °C	No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		No information available
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapour pressure		No information available
Vapour density		No information available
Specific Gravity		No information available
Relative density		No information available
Water Solubility	completely soluble	No information available
Solubility in other solvents		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity:		No information available
Explosive properties	No information available	
Oxidising Properties	No information available	

9.2 Other information

Bulk density: No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Contact with strong acids liberates sulphur dioxide.

10.4 Conditions to Avoid

Heat, flames and sparks. To avoid thermal decomposition, do not overheat.

10.5 Incompatible Materials

Strong acids. Strong oxidising agents.

10.6 Hazardous Decomposition Products

Carbon oxides. Sulphur oxides.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product Information

Inhalation — Expected to be a low hazard for recommended handling. May cause irritation of respiratory tract. Contact with strong acids liberates sulphur dioxide.

Eye contact — Causes serious eye irritation.

Skin contact — Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Avoid contact with skin. Irritating to skin.

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

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water	90,000 mg/kg (Rat)		
Potassium sulfite	>3200 mg/kg (rat)		
Hydroquinone	298 mg/kg (Rat) Oral LD50 Rat 298 mg/kg (Source: JAPAN_GHS)	> 4800 mg/kg (Rat)	
Diethylene glycol	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	
Potassium carbonate	> 2000 mg/kg (Rat) Oral LD50 Rat 2000 mg/kg (Source: ECHA)	>2000 mg/kg (Rabbit)	

Chemical Name	Other applicable information
Potassium sulfite	Moderate skin irritation
Hydroquinone	Moderate eye irritation Causes sensitisation 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.
Diethylene glycol	Mild skin irritation Mild eye irritation Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage.
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.
3-Pyrazolidinone, 4-(hydroxymethyl)-4-methyl-1-phenyl-	Mild skin irritation Skin Sensitisation Slight Eye irritation Strong Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.

Chronic toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	European Union	The United Kingdom
Hydroquinone	Carc. 2	

Sensitisation May cause sensitisation by skin contact.

Target Organ Effects Central nervous system. Respiratory system. Eyes. Skin.

Symptoms Allergic skin reactions including rash, dermatitis, irritation, and itching. Irritant.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects Very toxic to aquatic organisms.

Unknown aquatic toxicity <4% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Product Information
No information available.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates

Potassium sulfite		220 - 460: 96 h Leuciscus idus mg/L LC50 static	
Hydroquinone	0.335: 72 h Pseudokirchneriella subcapitata mg/L EC50 13.5: 120 h Desmodesmus subspicatus mg/L EC50	0.1 - 0.18: 96 h Pimephales promelas mg/L LC50 static 0.044: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.044: 96 h Pimephales promelas mg/L LC50 flow-through 0.17: 96 h Brachydanio rerio mg/L LC50	0.29: 48 h Daphnia magna mg/L EC50
Diethylene glycol		75200: 96 h Pimephales promelas mg/L LC50 flow-through	84000: 48 h Daphnia magna mg/L EC50
Potassium carbonate			440 - 880: <24 h Daphnia magna mg/L LC50

Chronic aquatic toxicity
Product Information
No information available.

Component Information
No information available.

12.2 Persistence and degradability

Expected to be readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulative potential No information available.

Partition coefficient: n-octanol/water No information available

Chemical Name	log Pow
Hydroquinone	0.5
Diethylene glycol	-1.98

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This information is provided to assist users in the correct disposal of working solutions prepared and used to Carestream Health specifications.

Waste from residues / unused products Should not be released into the environment. Dispose of in accordance with local regulations.

Empty containers	If thoroughly cleaned, preferably by rinsing at least three times with small quantities of water, waste product packaging may be consigned for recovery or disposal as non hazardous waste. Whenever possible, minimize waste by using the rinsing water to make up the working solution. The European Waste Catalogue Code is 15 01 02 plastic packaging.
Contaminated packaging	Empty containers may contain flammable or explosive vapours. Do not burn, or use a cutting torch on, the empty drum. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Other information	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

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 have 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.

IMDG/IMO

14.1. UN/ID no	UN3266
14.2. Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM CARBONATE
14.3. Hazard class	8
14.4. Packing Group	III
14.5. Marine pollutant	None
14.6. Special Provisions	223, 274
EmS	F-A, S-B

ADR/RID

14.1. UN/ID no	UN3266
14.2. Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM CARBONATE
14.3. Hazard class	8
14.4. Packing Group	III
14.5. Classification Code	C5
14.6. Special Provisions	274

ICAO/IATA

14.1. UN/ID no	UN3266
14.2. Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM CARBONATE
14.3. Hazard class	8
14.4. Packing Group	III
14.5. ERG Code	8L
14.6. Special Provisions	A3, A803

For transportation information, go to: http://ship.carestream.com

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

"Does not comply" indicates a component is either not on the public inventory or is subject to exemption requirements. If additional information is

needed contact Carestream Health.

International Inventories

EINECS/ELINCS	Does not comply
TSCA	Does not comply
DSL/NDSL	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical Safety Assessment

No information available

16. OTHER INFORMATION

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed
H318 - Causes serious eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects if inhaled
H351 - Suspected of causing cancer if inhaled
H400 - Very toxic to aquatic life
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Revision Date 6 September 2016

Revision Note (M)SDS sections updated

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.