

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 05.11.2013

version no: 1

Revision: 05.11.2013

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1 Product identifier

Trade name: **INDUSTREX Manual Developer**  
**INDUSTREX Manual Developer Replenisher**

Article number: 1057009

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

No further relevant information available.

Application of the substance / the preparation Developer for photographic use

##### 1.3 Details of the supplier of the safety data sheet

##### Manufacturer/Supplier:

CARESTREAM Health UK Ltd.  
 1 Park Lane, Hemel Hempstead, Hertfordshire, HP2 4YG  
[www.carestream.com](http://www.carestream.com)

##### Further information obtainable from:

For information on environmental, health and safety, please e-mail: [WWEHS@carestreamhealth.com](mailto:WWEHS@carestreamhealth.com)

##### 1.4 Emergency telephone number:

CHEMTREC International 1-703-527-3887

CHEMTREC UK: +(44)-870-8200418

#### SECTION 2: Hazards identification

##### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Muta. 2	H341	Suspected of causing genetic defects.
Carc. 2	H351	Suspected of causing cancer.
Eye Dam. 1	H318	Causes serious eye damage.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Skin Sens. 1	H317	May cause an allergic skin reaction.

##### Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R40-68: Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

Xi; Irritant

R36: Irritating to eyes.

Xi; Sensitising

R43: May cause sensitisation by skin contact.

N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

##### Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

##### Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

##### 2.2 Label elements

##### Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

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#### . Hazard pictograms



GHS05   GHS07   GHS08   GHS09

#### . Signal word Danger

#### . Hazard-determining components of labelling:

hydroquinone (1,4-dihydroxybenzene)  
 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)

#### . Hazard statements

H318 Causes serious eye damage.  
 H317 May cause an allergic skin reaction.  
 H341 Suspected of causing genetic defects.  
 H351 Suspected of causing cancer.  
 H400 Very toxic to aquatic life.

#### . Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P281 Use personal protective equipment as required.  
 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.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local regulations.

#### . 2.3 Other hazards

#### . Results of PBT and vPvB assessment

. PBT: Not applicable.  
 . vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

#### . 3.2 Chemical characterization: Mixtures

. **Description:** Mixture of substances listed below and with nonhazardous additions.

#### . Dangerous components:

CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4 Reg.nr.: 01-2119524016-51-xxxx	hydroquinone (1,4-dihydroxybenzene) Xn R22-40-68; Xi R41; Xi R43; N R50 Carc. Cat. 3, Muta. Cat. 3 Muta. 2, H341; Carc. 2, H351; Eye Dam. 1, H318; Aquatic Acute 1, H400; Acute Tox. 4, H302; Skin Sens. 1, H317	5-10%
CAS: 111-46-6 EINECS: 203-872-2 Index number: 603-140-00-6	diethylene glycol Xn R22 Acute Tox. 4, H302	3-5%
CAS: 584-08-7 EINECS: 209-529-3 Reg.nr.: 01-2119532646-36-xxxx	potassium carbonate Xi R36/38 Skin Irrit. 2, H315; Eye Irrit. 2, H319	3-5%

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CAS: 140-01-2 EINECS: 205-391-3 Reg.nr.: 01-2119474445-33-xxxx	Diethylenetriaminepentaacetic acid, pentasodium salt (DTPA-Na5)  Xn R20-63  Repr. 2, H361;  Acute Tox. 4, H332	(Contd. of page 2) 1- <2%
CAS: 13047-13-7 EINECS: 235-920-3	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one (HMP)  Xn R22;  Xi R43;  N R51/53  Aquatic Chronic 2, H411;  Acute Tox. 4, H302; Skin Sens. 1, H317	<1%

. **Additional information:** For the wording of the listed risk phrases refer to section 16.

## SECTION 4: First aid measures

- . **4.1 Description of first aid measures**
- . **General information:** Immediately remove any clothing/shoes soiled by the product.
- . **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- . **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- . **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- . **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.
- . **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- . **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- . **5.1 Extinguishing media**
- . **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- . **5.2 Special hazards arising from the substance or mixture**  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide (CO)  
Sulphur dioxide (SO<sub>2</sub>)  
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **5.3 Advice for firefighters**
- . **Protective equipment:** Do not inhale explosion gases or combustion gases.

## SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation
- . **6.2 Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- . **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.

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#### . 6.4 Reference to other sections

- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### . 7.1 Precautions for safe handling

- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- Information about fire - and explosion protection:** Protect from heat.

#### . 7.2 Conditions for safe storage, including any incompatibilities

##### . Storage:

- Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

##### . Information about storage in one common storage facility:

- Store away from foodstuffs.
- Store away from oxidizing agents.

##### . Further information about storage conditions:

- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed receptacles.
- Protect from heat and direct sunlight.
- Protect from exposure to the light.
- Store under lock and key and out of the reach of children.
- Recommended storage temperature: 5-25 °C

#### . 7.3 Specific end use(s) No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- Additional information about design of technical facilities:** No further data; see item 7.

#### . 8.1 Control parameters

##### . Ingredients with limit values that require monitoring at the workplace:

##### **123-31-9 hydroquinone (1,4-dihydroxybenzene) (5-10%)**

WEL (Great Britain)	Long-term value: 0.5 mg/m <sup>3</sup>
PEL (USA)	Long-term value: 2 mg/m <sup>3</sup>
REL (USA)	Short-term value: C 2* mg/m <sup>3</sup> *15-min
TLV (USA)	Long-term value: 1 mg/m <sup>3</sup> (SEN) NIC-DSEN

##### **111-46-6 diethylene glycol (3-5%)**

WEL (Great Britain)	Long-term value: 101 mg/m <sup>3</sup> , 23 ppm
WEEL (USA)	Long-term value: 10 mg/m <sup>3</sup>

- Additional information:** The lists valid during the making were used as basis.

#### . 8.2 Exposure controls

##### . Personal protective equipment:

##### . General protective and hygienic measures:

- The usual precautionary measures are to be adhered to when handling chemicals.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.

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Avoid contact with the eyes and skin.

**. Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Ensure adequate ventilation

**. Protection of hands:**



Protective gloves

Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**. Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR

Nitrile rubber, NBR

Neoprene gloves

**. Penetration time of glove material**

Glove material	breakthrough-time	layer thickness
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Butyl rubber:	≥ 480 min	≥0,4mm
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nitrile:	≥480min	≥0,38mm
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Neopren:	≥240min	≥0,65mm
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The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

**. Eye protection:**



Tightly sealed goggles

**. Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

**. 9.1 Information on basic physical and chemical properties**

**. General Information**

**. Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless

<b>. Odour:</b>	Odourless
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<b>. Odour threshold:</b>	Not determined.
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<b>. pH-value at 20 °C:</b>	11.1
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**. Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
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<b>Boiling point/Boiling range:</b>	> 100 °C
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<b>. Flash point:</b>	Not applicable.
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<b>. Flammability (solid, gaseous):</b>	Not applicable.
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**. Ignition temperature:**

<b>Decomposition temperature:</b>	Not determined.
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<b>. Self-igniting:</b>	Product is not selfigniting.
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<b>. Danger of explosion:</b>	Product does not present an explosion hazard.
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**. Explosion limits:**

<b>Lower:</b>	Not determined.
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<b>Upper:</b>	Not determined.
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<b>. Vapour pressure at 20 °C:</b>	23 hPa
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<b>. Density at 20 °C:</b>	1.292 g/cm <sup>3</sup>
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<b>. Relative density</b>	Not determined.
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<b>. Vapour density</b>	Not determined.
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<b>. Evaporation rate</b>	Not determined.
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**. Solubility in / Miscibility with water:**

Fully miscible.

<b>. Partition coefficient (n-octanol/water):</b>	Not determined.
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**. Viscosity:**

<b>Dynamic:</b>	Not determined.
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<b>Kinematic:</b>	Not determined.
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**. Solvent content:**

<b>Organic solvents:</b>	3.5 %
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<b>Water:</b>	63.3 %
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<b>VOC (EC)</b>	3.49 %
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<b>. 9.2 Other information</b>	No further relevant information available.
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## SECTION 10: Stability and reactivity

**. 10.1 Reactivity****. 10.2 Chemical stability****. Thermal decomposition / conditions to be avoided:** Stable at environment temperature.**. 10.3 Possibility of hazardous reactions**

Reacts with acids, alkalis and oxidizing agents.

Reacts with acids releasing sulphur dioxide.

**. 10.4 Conditions to avoid** No further relevant information available.**. 10.5 Incompatible materials:** Under certain fire conditions, traces of other toxic gases cannot be excluded.**. 10.6 Hazardous decomposition products:**

Irritant gases/vapours

Carbon monoxide and carbon dioxide

## SECTION 11: Toxicological information

**. 11.1 Information on toxicological effects****. Acute toxicity:****. LD/LC50 values relevant for classification:****123-31-9 hydroquinone (1,4-dihydroxybenzene)**

Oral	LD50	320 mg/kg (rat)
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#### 140-01-2 Diethylenetriaminepentaacetic acid, pentasodium salt (DTPA-Na5)

Oral	LD50	>2000 mg/kg (rat)
Inhalative	LC50	k.A. mg/L (.)

#### 111-46-6 diethylene glycol

Oral	LD50	12565 mg/kg (rat)
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**. Primary irritant effect:**

**. on the skin:** No irritant effect.

**. on the eye:** Strong irritant with the danger of severe eye injury.

**. Sensitization:** Sensitization possible through skin contact.

**. Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

**. Acute effects (acute toxicity, irritation and corrosivity)**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

**. CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 2

## SECTION 12: Ecological information

### . 12.1 Toxicity

**. Aquatic toxicity:**

#### 123-31-9 hydroquinone (1,4-dihydroxybenzene)

EC50	48h: 0.29 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 0.044 mg/L (Pimephales promelas)

**. 12.2 Persistence and degradability** No further relevant information available.

**. 12.3 Bioaccumulative potential** No further relevant information available.

**. 12.4 Mobility in soil** No further relevant information available.

**. Ecotoxicological effects:**

**. Remark:** Very toxic for fish

**. Additional ecological information:**

**. General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

**. 12.5 Results of PBT and vPvB assessment**

**. PBT:** Not applicable.

**. vPvB:** Not applicable.

**. 12.6 Other adverse effects** No further relevant information available.

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### SECTION 13: Disposal considerations

#### . 13.1 Waste treatment methods

##### . Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

##### . European waste catalogue

09 01 01*	water-based developer and activator solutions
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##### . Uncleaned packaging:

. **Recommendation:** Disposal must be made according to official regulations.

. **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

#### . 14.1 UN-Number

##### . ADR, IMDG, IATA

UN3082

#### . 14.2 UN proper shipping name

##### . ADR

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

##### . IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), MARINE POLLUTANT

##### . IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

#### . 14.3 Transport hazard class(es)

##### . ADR



##### . Class

9 (M6) Miscellaneous dangerous substances and articles.

##### . Label

9

##### . IMDG, IATA



##### . Class

9 Miscellaneous dangerous substances and articles.

##### . Label

9

#### . 14.4 Packing group

##### . ADR, IMDG, IATA

III

#### . 14.5 Environmental hazards:

Product contains environmentally hazardous substances:  
hydroquinone

##### . Marine pollutant:

Yes

Symbol (fish and tree)

##### . Special marking (ADR):

Symbol (fish and tree)

##### . Special marking (IATA):

Symbol (fish and tree)

#### . 14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

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. <b>Danger code (Kemler):</b>	90
. <b>EMS Number:</b>	F-A,S-F
. <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
. <b>Transport/Additional information:</b>	
. <b>ADR</b>	
. <b>Limited quantities (LQ)</b>	5L
. <b>Transport category</b>	3
. <b>Tunnel restriction code</b>	E
. <b>UN "Model Regulation":</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), 9, III

### SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- . **Labelling according to Regulation (EC) No 1272/2008** GHS label elements
- . **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### . **Relevant phrases**

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.
- R20 Harmful by inhalation.
- R22 Harmful if swallowed.
- R36/38 Irritating to eyes and skin.
- R40 Limited evidence of a carcinogenic effect.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50 Very toxic to aquatic organisms.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R63 Possible risk of harm to the unborn child.
- R68 Possible risk of irreversible effects.

#### . **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances

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CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

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