

# ILFORD PHOTO

## HARMAN technology Ltd

### SAFETY DATA SHEET

#### Ifotec DD-X Film Developer

According to WHMIS 2015, in compliance with the Hazardous Product Act (HPA, as amended) and the requirements of the Hazardous Product Regulations (HPR)

#### 1. Identification

##### Product identifier

**Product name** Ifotec DD-X Film Developer

**Product number** 1177857

**Internal identification** 10153

**Container size** 1 Litre

##### Recommended use of the chemical and restrictions on use

**Restriction on use** Photographic Developer Solution

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

**Supplier** Distributor  
Amplis Foto Inc, 22 Telson Road,  
Markham, Ontario L3R 1E5  
Tel: 905 477 4111  
Fax: 905 477 2502

**Contact person** Contact Distributor: christine@amplis.com, <http://www.amplis.com>

##### Emergency telephone number

**Emergency telephone** Canada/USA: For medical emergency, call 1 800 842 9660 (Product Misuse).

#### 2. Hazard identification

##### Classification of the substance or mixture

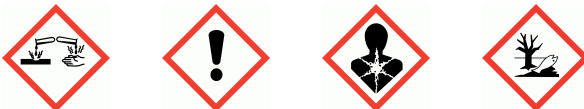
**Physical hazards** Not Classified

**Health hazards** Eye Dam. 1 - H318 Skin Sens. 1 - H317 Muta. 2 - H341 Carc. 2 - H351 Repr. 1B - H360FD

**Environmental hazards** Aquatic Acute 1 - H400

##### Label elements

##### Hazard pictograms



##### Signal word

Danger

##### Hazard statements

H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.  
H351 Suspected of causing cancer.  
H360FD May damage fertility. May damage the unborn child.  
H400 Very toxic to aquatic life.

## Ilfotec DD-X Film Developer

**Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.  
 P273 Avoid release to the environment.  
 P280 Wear protective clothing, gloves, eye and face protection.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P405 Store locked up.  
 P501 Dispose of contents/ container in accordance with local regulations.

**Contains**

HYDROQUINONE, Disodium Tetraborate decahydrate, Boric Acid, pentasodium (carboxylatomethyl)iminobis(ethylenitrilo)tetraacetate

### Other hazards

No information available.

### 3. Composition/information on ingredients

#### Mixtures

<b>2,2'-OXYBISETHANOL</b>	<b>1-5%</b>
CAS number: 111-46-6	
<b>Classification</b>	
Acute Tox. 4 - H302	
<b>HYDROQUINONE</b>	<b>1-5%</b>
CAS number: 123-31-9	
M factor (acute) = 10	
<b>Classification</b>	
Acute Tox. 4 - H302	
Eye Dam. 1 - H318	
Skin Sens. 1 - H317	
Muta. 2 - H341	
Carc. 2 - H351	
Aquatic Acute 1 - H400	
<b>Disodium Tetraborate decahydrate</b>	<b>1-5%</b>
CAS number: 1303-96-4	
<b>Classification</b>	
Eye Irrit. 2A - H319	
Repr. 1B - H360FD	
<b>Boric Acid</b>	<b>1-5%</b>
CAS number: 10043-35-3	
<b>Classification</b>	
Repr. 1B - H360FD	

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<p><b>pentasodium (carboxylatomethyl)iminobis(ethylenitrilo)tetraacetate</b> <span style="float: right;"><b>&lt;1%</b></span></p> <p>CAS number: 140-01-2</p>
<p><b>Classification</b> Acute Tox. 4 - H332 Repr. 2 - H361fd STOT RE 2 - H373</p>
<p><b>1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone</b> <span style="float: right;"><b>&lt;1%</b></span></p> <p>CAS number: 13047-13-7</p>
<p><b>Classification</b> Acute Tox. 4 - H302 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411</p>

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

<b>Inhalation</b>	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

#### Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	No specific symptoms known.
<b>Ingestion</b>	No specific symptoms known.
<b>Skin contact</b>	May cause sensitization by skin contact.
<b>Eye contact</b>	Irritation of eyes and mucous membranes.

#### Indication of any immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	No specific recommendations.
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### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** The product is non-combustible. Use extinguishing media appropriate for surrounding fire.

#### Specific hazards arising from the hazardous product

<b>Specific hazards</b>	The product is non-combustible. No unusual fire or explosion hazards noted.
<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Oxides of: Carbon. Sulfur. Nitrogen. Sodium. Potassium.

#### Advice for firefighters

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**Protective actions during firefighting** Avoid breathing fire gases or vapours.

**Special protective equipment for firefighters** Use protective equipment appropriate for surrounding materials. Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin and eyes. Provide adequate ventilation. For personal protection, see Section 8.

#### Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground. Collect and dispose of spillage as indicated in Section 13.

#### Methods and material for containment and cleaning up

**Methods for cleaning up** Wear protective clothing, gloves, eye and face protection. Small Spillages: Flush away spillage with plenty of water. Large Spillages: Absorb in vermiculite, dry sand or earth and place into containers. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

#### Reference to other sections

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see Section 13.

### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Provide adequate ventilation. Avoid spilling. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Read and follow manufacturer's recommendations.

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

**Storage precautions** Store in tightly-closed, original container. Storage advice to ensure the product remains in a useable condition throughout its specified shelf life: Store at temperatures above 0°C. Store at temperatures not exceeding 30°C.

**Storage class** Chemical storage.

#### Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.

### 8. Exposure controls/Personal protection

#### Control parameters

#### Occupational exposure limits

##### HYDROQUINONE

Long-term exposure limit (8-hour TWA): ACGIH 1 mg/m<sup>3</sup>  
A3, DSens

##### Disodium Tetraborate decahydrate

Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m<sup>3</sup> inhalable fraction  
Short-term exposure limit (15-minute): ACGIH 6 mg/m<sup>3</sup> inhalable fraction  
A4

##### Boric Acid

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Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m<sup>3</sup> inhalable fraction

Short-term exposure limit (15-minute): ACGIH 6 mg/m<sup>3</sup> inhalable fraction

A4

ACGIH = American Conference of Governmental Industrial Hygienists.

A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

DSens = Dermal sensitizer.

A4 = Not Classifiable as a Human Carcinogen.

### Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate ventilation. This product must not be handled in a confined space without adequate ventilation.

#### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

#### Hand protection

Use protective gloves.

#### Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.
Odour	No characteristic odour.
pH	pH (concentrated solution): 8.7
Initial boiling point and range	>100°C @ 760 mm Hg
Relative density	1.30 @ 20°C
Solubility(ies)	100% Soluble in water.
Other information	Not available.

## 10. Stability and reactivity

Reactivity	See the other subsections of this section for further details.
Stability	Stable under the prescribed storage conditions. No particular stability concerns.
Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
Conditions to avoid	Avoid excessive heat for prolonged periods of time. Avoid contact with acids.
Materials to avoid	Strong acids. Avoid contact with other photographic solutions and/or cleaning compounds.
Hazardous decomposition products	Thermal decomposition or combustion products may include the following substances: Oxides of: Carbon. Sulfur. Nitrogen. Potassium. Sodium.

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### 11. Toxicological information

#### Information on toxicological effects

<b>Toxicological effects</b>	This chemical formulation has not been tested for health effects. Exposure effects listed are based on existing health data for the individual components that comprise the mixture.
<b>Acute toxicity - oral</b>	
<b>ATE oral (mg/kg)</b>	7,804.72
<b>Germ cell mutagenicity</b>	
<b>Genotoxicity - in vitro</b>	The product contains a substance that is classified as: Suspected of causing genetic defects.
<b>Carcinogenicity</b>	
<b>Carcinogenicity</b>	The product contains a substance that is classified as: Suspected of causing cancer.
<b>Reproductive toxicity</b>	
<b>Reproductive toxicity - fertility</b>	The product contains a substance that is classified as: May damage fertility. May damage the unborn child.
<b>Reproductive toxicity - development</b>	The product contains a substance that is classified as: May damage fertility. May damage the unborn child.
<b>Specific target organ toxicity - repeated exposure</b>	
<b>STOT - repeated exposure</b>	The product contains a substance that is classified as: May cause damage to organs through prolonged or repeated exposure if inhaled.
<b>Inhalation</b>	May cause respiratory system irritation.
<b>Ingestion</b>	May cause discomfort if swallowed.
<b>Skin contact</b>	Irritating to skin. May cause sensitization by skin contact. May cause allergic contact eczema.
<b>Eye contact</b>	Irritation of eyes and mucous membranes. Repeated exposure may cause chronic eye irritation.
<b>Acute and chronic health hazards</b>	Prolonged or repeated exposure may cause severe irritation. May cause skin irritation/eczema. May cause sensitization by skin contact. Irritating to eyes. Vapour or spray in the eyes may cause irritation and smarting. May cause allergy. May cause hypersensitivity.
<b>Route of exposure</b>	Skin and/or eye contact Ingestion.
<b>Medical considerations</b>	May aggravate existing: Skin disorders and allergies. Pre-existing eye problems.

#### Toxicological information on ingredients

##### 2,2'-OXYBISETHANOL

#### Acute toxicity - oral

<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	1,000.0
<b>Species</b>	Human
<b>ATE oral (mg/kg)</b>	1,000.0

##### HYDROQUINONE

#### Acute toxicity - oral

<b>Acute toxicity oral (LD<sub>50</sub> mg/kg)</b>	375.0
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<b>Species</b>	Rat
<b>ATE oral (mg/kg)</b>	375.0
<b><u>Carcinogenicity</u></b>	
<b>IARC carcinogenicity</b>	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

### pentasodium (carboxylatomethyl)iminobis(ethylenitrilo)tetraacetate

#### Acute toxicity - inhalation

<b>ATE inhalation (gases ppmV)</b>	4,500.0
<b>ATE inhalation (vapours mg/l)</b>	11.0
<b>ATE inhalation (dusts/mists mg/l)</b>	1.5

## 12. Ecological information

**Toxicity** The product contains a substance which is very toxic to aquatic organisms.

#### Ecological information on ingredients

#### 2,2'-OXYBISETHANOL

##### Acute aquatic toxicity

<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: >100 mg/l, Fish
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 0.3 - 1 mg/l, Daphnia magna

#### HYDROQUINONE

##### Acute aquatic toxicity

<b>LC<sub>50</sub>/EC<sub>50</sub></b>	0.01 < L(E)C <sub>50</sub> ≤ 0.1
<b>M factor (acute)</b>	10
<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 0.10-0.18 (Fathead Minnow) mg/l, Fish
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 0.05 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	IC <sub>50</sub> , 72 hours: 1.0 mg/l, Algae

#### Boric Acid

##### Acute aquatic toxicity

<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 600 mg/l, Fish
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 115-153 mg/l, Daphnia magna

### pentasodium (carboxylatomethyl)iminobis(ethylenitrilo)tetraacetate

##### Acute aquatic toxicity

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<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: >1000 (Iepomis macrochirus) mg/l, Fish
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: >500 (daphnia magna) mg/l, Daphnia magna

### Persistence and degradability

**Persistence and degradability** There are no data on the degradability of this product.

### Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

### Mobility in soil

**Mobility** The product is soluble in water.

### Other adverse effects

**Other adverse effects** None known.

## 13. Disposal considerations

### Waste treatment methods

**Disposal methods** Used, diluted, and spent solutions may be allowed to be discharged to sanitary sewer by permit IF allowed by local regulations. Consult your local authority for advice. Waste may have to be pre-treated before discharge. Consult local authorities before discharging any waste to sewer. Do not discharge to septic system. Waste that cannot be discharged to sewer may have to be handled by a licensed hazardous waste contractor.

## 14. Transport information

**General** A marine pollutant exception applies to this product, so that no labeling or placarding is required for transportation by land in Canada under SOR / 2008-34. Other marine pollutant exceptions also apply, so it is not required to be labeled or transported as hazardous goods in the United States or abroad. See 49CFR 171.4 (c), IATA SP A197 and IMDG 2.10.2.7.

### UN number

<b>UN No. (TDG)</b>	3082
<b>UN No. (IMDG)</b>	3082
<b>UN No. (ICAO)</b>	3082
<b>UN No. (DOT)</b>	UN3082

### UN proper shipping name

<b>Proper shipping name (TDG)</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (contains hydroquinone).
<b>Proper shipping name (IMDG)</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (contains hydroquinone).
<b>Proper shipping name (ICAO)</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (contains hydroquinone).
<b>Proper shipping name (DOT)</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (CONTAINS HYDROQUINONE, 1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone)

### Transport hazard class(es)

<b>DOT class</b>	9
<b>DOT hazard label</b>	9
<b>TDG class</b>	9 (M6)
<b>TDG label(s)</b>	9



## Ilfotec DD-X Film Developer

**IMDG class** 9

**ICAO class/division** 9

**Transport labels**



**DOT transport label**



**Packing group**

**TDG packing group** III

**IMDG packing group** III

**ICAO packing group** III

**DOT packing group** III

**Environmental hazards**

**Environmentally hazardous substance/marine pollutant**



**Special precautions for user**

**EmS** F-A, S-F

**DOT reportable quantity** RQ: Hydroquinone (2968.1517 lbs)

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

### 15. Regulatory information

**Inventories**

**Canada – DSL/NDSL**

*Water*

*Potassium Sulphite*

*2,2'-OXYBISETHANOL*

*HYDROQUINONE*

*Disodium Tetraborate decahydrate*

*Boric Acid*

*pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate*

*1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone*

### 16. Other information

## Ilfotec DD-X Film Developer

<b>General information</b>	HARMAN technology Ltd believe the information and recommendations contained herein are based on correct and factual data. However, no express or implied guarantee or warranty of any kind is made with respect to this information. Use this information only to supplement other information you have gathered and then make an independent determination about the completeness and suitability of all information to ensure the proper use and disposal of this product and the health and safety of employees and customers.
<b>Key literature references and sources for data</b>	European Photographic Chemical Industry Code of Practice For Classification And Labelling Material Safety Data Sheet, Misc. manufacturers. Dangerous Properties of Industrial Chemicals, 6.edition, N.Sax, 1984.
<b>Issued by</b>	HS&E Advisor Dr Trevor Rhodes Tel: +44(0)1565 650000, email: trevor.rhodes@harmantechnology.com
<b>Revision date</b>	2018-03-13
<b>Revision</b>	2
<b>Supersedes date</b>	14/05/2015
<b>SDS number</b>	20368
<b>Hazard statements in full</b>	H302 Harmful if swallowed. 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. H360FD May damage fertility. May damage the unborn child. H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects.