

REVISION DATE: 16/09/2010

ILFORD PHOTO

HARMAN technology Ltd

SAFETY DATA SHEET

Multigrade Developer

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	Multigrade Developer
PRODUCT NO.	1918555, 1155073, 1757855
INTERNAL ID	10002
APPLICATION	Photographic Developer Solution
SUPPLIER	Distributors UK: HARMAN technology Ltd, Ilford Way, Mobberley, Cheshire, WA16 7JL, UK Tel: 01565 650000, Fax: 01565 872734. (http://www.harmanotechnology.com) Australia: CR Kennedy & Co Pty Ltd, 663 Chapel Street, South Yarra, Victoria 3141, Australia. Tel: 03 9823 1555, Fax: 03 9827 7216
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EMERGENCY TELEPHONE	Swiss Toxicological Information Centre (24 hours) Tel: +41 (0)1 251 5151, Fax: +41 (0)1 252 8833 E-mail: stic@access.ch, Internet: www.toxi.ch
CONTAINER SIZE	500ml 1 Litre 5 Litre

2 HAZARDS IDENTIFICATION

Irritating to eyes. May cause sensitisation by skin contact. Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

CLASSIFICATION (1999/45) Carc. Cat. 3;R40, Muta Cat. 3;R68. Xi;R36. R43.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification (67/548)
1-Phenyl-4-Methyl-4-Hydroxymethyl-3-Pyrazolidone	235-920-3	13047-13-7	< 1	Xn;R22. N;R51/53. R43.
Diethylenetriamine Pentaacetic Acid Na5	205-391-3	140-01-2	1-5%	Xi;R36/38.
HYDROQUINONE	204-617-8	123-31-9	1-5%	Carc. Cat. 3;R40 Muta. Cat. 3;R68 Xn;R22 R43 Xi;R41 N;R50
Potassium Carbonate	209-529-3	584-08-7	5-10%	Xi;R36,R38.
SODIUM HYDROXIDE	215-185-5	1310-73-2	< 1	C;R35

The Full Text for all R-Phrases are Displayed in Section 16

COMPOSITION COMMENTS

Hazardous according to the criteria of Worksafe Australia

4 FIRST-AID MEASURES

Multigrade Developer

INHALATION

Unlikely route of exposure as the product does not contain volatile substances. Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

INGESTION

Remove victim immediately from source of exposure. Rinse mouth thoroughly. Drink a few glasses of water or milk. DO NOT induce vomiting. Get medical attention immediately.

SKIN CONTACT

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Contact physician if irritation continues.

EYE CONTACT

Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Contact physician if irritation persists.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

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

SPECIAL FIRE FIGHTING PROCEDURES

Avoid breathing fire vapours.

UNUSUAL FIRE & EXPLOSION HAZARDS

No unusual fire or explosion hazards noted.

SPECIFIC HAZARDS

The product is non-combustible. If heated, harmful vapours may be formed.

PROTECTIVE MEASURES IN FIRE

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

Avoid contact with skin and eyes. Provide adequate ventilation. For personal protection, see section 8.

ENVIRONMENTAL PRECAUTIONS

Do not discharge into drains, water courses or onto the ground. The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

SPILL CLEAN UP METHODS

For waste disposal, see section 13. Wear necessary protective equipment. Small quantities may be flushed to drains with plenty of water. Absorb in vermiculite, dry sand or earth and place into containers. Wash contaminated area with water. Prevent discharge of larger quantity to drain.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Provide good ventilation. Avoid spilling, skin and eye contact. Do not eat, drink or smoke when using the product. Read and follow manufacturer's recommendations.

STORAGE PRECAUTIONS

Store in closed original container in a dry place. Store above freezing. Store under well-ventilated conditions at a temperature below 25°C.

STORAGE CLASS

Chemical storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Multigrade Developer

Name	Std	TWA - 8 hrs		STEL - 15 min		Notes
HYDROQUINONE	WEL		0.5 mg/m3			
SODIUM HYDROXIDE	WEL				2 mg/m3	

WEL = Workplace Exposure Limit.

PROTECTIVE EQUIPMENT



ENGINEERING MEASURES

Provide adequate ventilation. Must not be handled in confined space without sufficient ventilation.

RESPIRATORY EQUIPMENT

Respiratory protection not required.

HAND PROTECTION

Use protective gloves.

EYE PROTECTION

Use eye protection.

OTHER PROTECTION

Wear suitable protective clothing as protection against splashing or contamination.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear liquid		
COLOUR	Colourless to pale yellow		
ODOUR	No characteristic odour.		
SOLUBILITY	100% Soluble in water.		
BOILING POINT (°C)	>100	760 mm Hg	RELATIVE DENSITY 1.235 20
pH-VALUE, CONC. SOLUTION	10		

10 STABILITY AND REACTIVITY

STABILITY

Stable under the prescribed storage conditions. No particular stability concerns.

CONDITIONS TO AVOID

Avoid excessive heat for prolonged periods of time. Avoid contact with acids.

HAZARDOUS POLYMERISATION

Will not polymerise.

MATERIALS TO AVOID

Strong acids. Avoid contact with other photographic solutions and/or cleaning compounds.

HAZARDOUS DECOMPOSITION PRODUCTS

Fire or high temperatures create: Sulphurous gases (SO_x).

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION

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.

Multigrade Developer

INHALATION

May cause irritation to the respiratory system.

INGESTION

Harmful if swallowed. May cause discomfort if swallowed.

SKIN CONTACT

Irritating to skin. May cause sensitisation by skin contact. May cause allergic contact eczema.

EYE CONTACT

Irritation of eyes and mucous membranes. Repeated exposure may cause chronic eye irritation.

HEALTH WARNINGS

Prolonged or repeated exposure may cause severe irritation. May cause skin irritation/eczema. May cause sensitisation by skin contact. Irritating to eyes.

Spray and vapour in the eyes may cause irritation and smarting.

May cause allergy. May cause hypersensitivity.

OTHER HEALTH EFFECTS

Hydroquinone: Carcinogen Category 3. Mutagen Category 3. ACGIH A3 IARC 3 IARC Animal Carcinogen List. IARC Int. Agency for Cancer Research.

ROUTE OF ENTRY

Skin and/or eye contact. Ingestion.

MEDICAL CONSIDERATIONS

May aggravate existing: Skin disorders and allergies. Pre-existing eye problems.

Name	HYDROQUINONE
Toxic Dose 1 - LD 50	320 mg/kg (oral rat)
Toxic Dose 2 - LD 50	>900 mg/kg (skn-rat)
Name	1-Phenyl-4-Methyl-4-Hydroxymethyl-3-Pyrazolidone
Toxic Dose 1 - LD 50	1000 mg/kg (oral rat)
Toxic Dose 2 - LD 50	>2000 mg/kg (skn-rat)
Name	Diethylenetriamine Pentaacetic Acid Na5
Toxic Dose 1 - LD 50	>4000 mg/kg (oral rat)
Name	Potassium Carbonate
Toxic Dose 1 - LD 50	2570 mg/kg (oral-mouse)
Toxic Dose 2 - LD 50	1870 mg/kg (oral rat)

12 ECOLOGICAL INFORMATION

ECOTOXICITY

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

MOBILITY

The product is soluble in water.

BIOACCUMULATION

No data available on bioaccumulation.

DEGRADABILITY

No data available.

WATER HAZARD CLASSIFICATION

WGK 3

Multigrade Developer

Name	HYDROQUINONE
LC 50, 96 Hrs, FISH mg/l	0.10-0.18 (Fathead Minnow)
EC 50, 48 Hrs, DAPHNIA, mg/l	0.05
IC 50, 72 Hrs, ALGAE, mg/l	1.0
Name	1-Phenyl-4-Methyl-4-Hydroxymethyl-3-Pyrazolidone
LC 50, 96 Hrs, FISH mg/l	32 (Rainbow Trout)
EC 50, 48 Hrs, DAPHNIA, mg/l	1.7
Name	Diethylenetriamine Pentaacetic Acid Na5
LC 50, 96 Hrs, FISH mg/l	>1000 (Iepomis macrochirus)
EC 50, 48 Hrs, DAPHNIA, mg/l	>500 (daphnia magna)

13 DISPOSAL CONSIDERATIONS

GENERAL INFORMATION

The disposal process for this product when it becomes waste, depends largely upon how much (volume) waste is generated, where the waste is generated (location) and by whom (whether in a professional or amateur or other capacity). Therefore only outline guidance can be provided. For detailed guidance and specialist advice on the disposal of this product when it becomes waste, please visit the COPPICE web site at <http://www.pic.uk.net/coppice/index.htm>. The information is relevant to both professional and amateur users.

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

	No transport warning sign required.
ROAD TRANSPORT NOTES	Not classified for road transport
RAIL TRANSPORT NOTES	Not classified for rail transport
SEA TRANSPORT NOTES	Not classified for sea transport
AIR TRANSPORT NOTES	Not classified for air transport
ADR CLASS	Not classified for transportation.

15 REGULATORY INFORMATION

LABELLING



Harmful

CONTAINS

HYDROQUINONE

RISK PHRASES

R36	Irritating to eyes.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.
R68	Possible risk of irreversible effects.

SAFETY PHRASES

S2	Keep out of the reach of children.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37	Wear suitable protective clothing and gloves.
S46	If swallowed, seek medical advice immediately and show this container or label.

Multigrade Developer

S61	Avoid release to the environment. Refer to special instructions/safety data sheets.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

EU DIRECTIVES

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC.

APPROVED CODE OF PRACTICE

Classification and Labelling of Substances and Preparations Dangerous for Supply. Worksafe Australia NOHSC 2012: Labelling of workplace substances. Australian Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). Australian Approved Criteria for Classifying Hazardous Substances (NOHSC 1008). Australian List of Designated Hazardous Substances (NOHSC 10005). Australian National Code of Practice for the Preparation of Material safety Data Sheets (NOHSC 2011)

GUIDANCE NOTES

CHIP for everyone HSG(108).

NATIONAL REGULATIONS

Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments. Workplace Exposure Limits 2007 (EH40) The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 No 716

16 OTHER INFORMATION

GENERAL INFORMATION

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.

INFORMATION SOURCES

Material Safety Data Sheet, Misc. manufacturers. European Photographic Chemical Industry Code of Practice For Classification And Labelling Dangerous Properties of Industrial Chemicals, 6.edition, N.Sax, 1984.

ISSUED BY

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GENERATED

RISK PHRASES IN FULL

R35	Causes severe burns.
R22	Harmful if swallowed.
R36/38	Irritating to eyes and skin.
R36	Irritating to eyes.
R38	Irritating to skin.
R40	Limited evidence of a carcinogenic effect.
R43	May cause sensitisation by skin contact.
R68	Possible risk of irreversible effects.
R41	Risk of serious damage to eyes.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R50	Very toxic to aquatic organisms.