ILFORD PHOTO

HARMAN technology Ltd

SAFETY DATA SHEET

Phenisol Developer 1+4

This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.

This SDS relates to the product after it has been prepared for use in accordance with our recommendations. Because HARMAN technology Ltd. does not supply the solution ready for use, we are not obliged to provide this SDS. However, we do so in order to help users to use the product safely and assess correctly the risks involved. Users should also have and refer to the SDS(s) for the concentrate(s) from which the working strength solution is prepared.

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

1.1. Product identifier

Product name Phenisol Developer 1+4

Internal identification 10147

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

Identified uses Photographic Developer Solution

1.3. Details of the supplier of the safety data sheet

Supplier

HARMAN technology Ltd
Ilford Way
Mobberley
Knutsford
Cheshire WA16 7JL
http:/www.harmantechnology.com
Tel: +44(0)1565 650000
Fax: +44(0)1565 872734

Contact person HS&E Advisor Dr Trevor Rhodes Tel: +44(0)1565 650000, email: trevor.rhodes@harmantechnology.com

1.4. Emergency telephone number

Emergency telephone See Safety Data Sheet of appropriate concentrate for details.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

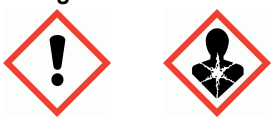
Physical hazards Not Classified

Health hazards Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Muta. 2 - H341 Carc. 2 - H351

Environmental hazards Not Classified

2.2. Label elements

Pictogram



Signal word Warning

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Hazard statements H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.

Precautionary statements P264 Wash contaminated skin thoroughly after handling.
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.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with local regulations.

Contains HYDROQUINONE

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HYDROQUINONE **<2%**

CAS number: 123-31-9 EC number: 204-617-8 REACH registration number: 01-2119524016-51-XXXX

M factor (Acute) = 10

Classification
Acute Tox. 4 - H302
Eye Dam. 1 - H318
Skin Sens. 1 - H317
Muta. 2 - H341
Carc. 2 - H351
Aquatic Acute 1 - H400

Classification (67/548/EEC or 1999/45/EC)
Carc. Cat. 3;R40 Muta. Cat. 3;R68 Xn;R22 R43 Xi;R41 N;R50

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Unlikely route of exposure as the product does not contain volatile substances.

Ingestion Rinse mouth thoroughly with water.

Skin contact Rinse immediately with plenty of water.

Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation No specific symptoms known.

Ingestion No specific symptoms known.

Skin contact May cause sensitisation by skin contact.

Eye contact This product is strongly irritating.

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4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Irritating gases or vapours. Oxides of: Sulphur. Carbon. Nitrogen. Potassium.

5.3. Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin and eyes.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep out of reach of children.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

HYDROQUINONE

Long-term exposure limit (8-hour TWA): WEL 0.5 mg/m³
WEL = Workplace Exposure Limit

HYDROQUINONE (CAS: 123-31-9)

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DNEL	Industry/Professional - Dermal; Long term systemic effects: 128 mg/kg/day Industry/Professional - Inhalation; Long term systemic effects: 7 mg/m³ Industry/Professional - Inhalation; Long term local effects: 1 mg/m³ General population - Dermal; Long term systemic effects: 64 mg/kg/day General population - Inhalation; Long term systemic effects: 1.74 mg/m³ General population - Inhalation; Long term local effects: 0.5 mg/m³
PNEC	- Water; 0.000114 mg/l - Marine water; 0.0000114 mg/l - Sediment (Freshwater); 0.00098 mg/kg - Sediment (Marinewater); 0.000097 mg/kg - Intermittent release; 0.00134 mg/l - Soil; 0.000129 mg/kg - STP; 0.71 mg/l

8.2. 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	Respiratory protection not required.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid. Soluble in water.
Colour	Colourless to pale yellow.
Odour	No characteristic odour.
pH	pH (diluted solution): 10.6 - 10.7 (diluted as directed)
Melting point	<0°C
Initial boiling point and range	>100°C @ 760 mm Hg
Evaporation rate	1 H2O (water)=1
Vapour pressure	No information available.
Relative density	~ 1.05 @ 20°C
Solubility(ies)	Soluble in water.

9.2. Other information

Other information	Not available.

SECTION 10: Stability and reactivity

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10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid Avoid contact with acids. Avoid contact with other photographic solutions and/or cleaning compounds.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Irritating gases or vapours. Oxides of: Sulphur. Carbon. Nitrogen. Potassium.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects 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.

Acute toxicity - oral

ATE oral (mg/kg) 35,850.86

Germ cell mutagenicity

Genotoxicity - in vivo The product contains a substance that is classified as: Suspected of causing genetic defects.

Carcinogenicity

Carcinogenicity The product contains a substance that is classified as: Suspected of causing cancer.

Skin contact May cause sensitisation by skin contact.

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

Route of entry Skin and/or eye contact

HYDROQUINONE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	375.0
Species	Rat
ATE oral (mg/kg)	375.0

Carcinogenicity

IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.

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SECTION 12: Ecological Information

12.1. Toxicity

Toxicity The product contains a substance that is very toxic to aquatic organisms. At the levels that are present, the product is not considered to be hazardous to the environment.

HYDROQUINONE

Acute aquatic toxicity

LE(C)$_{50}$	0.01 < L(E)C50 ≤ 0.1
M factor (Acute)	10
Acute toxicity - fish	LC_{50}, 96 hours: 0.10-0.18 (Fathead Minnow) mg/l, Algae
Acute toxicity - aquatic invertebrates	EC_{50}, 48 hours: 0.05 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC_{50}, 72 hours: 1.0 mg/l, Fish

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

HYDROQUINONE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. 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 handled by a licensed hazardous waste contractor. EU Waste Number: 090101

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Road transport notes Not classified for road transport

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Rail transport notes	Not classified for rail transport
Sea transport notes	Not classified for sea transport
Air transport notes	Not classified for air transport

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Transport labels
No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). 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.
Guidance	Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out for this mixture. See SUMI (Safe Use of Mixtures Information document) attached to Safety Data Sheet of appropriate concentrate.

SECTION 16: Other information

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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.
Key literature references and sources for data	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.
Issued by	HS&E Advisor Dr Trevor Rhodes Tel: +44(0)1565 650000, email: trevor.rhodes@harmantechnology.com
Revision date	18/08/2017
Revision	2
Supersedes date	07/10/2015
Hazard statements in full	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H341 Suspected of causing genetic defects. H351 Suspected of causing cancer. H400 Very toxic to aquatic life.