

ILFORD PHOTO

HARMAN technology Ltd

SAFETY DATA SHEET

2000RT Machine Paper Developer

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name 2000RT Machine Paper Developer
Product number 1758056
Internal identification 10004
Container size 5 Liter

Recommended use of the chemical and restrictions on use

Application Developer Solution

Details of the supplier of the safety data sheet

Supplier Distributor
USA: Robert Distributors, 220 East Saint Clair St, Indianapolis, IN 46204
Tel: 877-281-6405

Contact Person Contact Distributor: sales@robertsdistributors.com

Emergency telephone number

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

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified
Health hazards Eye Irrit. 2A - H319 Skin Sens. 1 - H317 Muta. 2 - H341 Carc. 2 - H351 Repr. 2 - H361fd
STOT RE 2 - H373
Environmental hazards Aquatic Acute 1 - H400

Label elements

Pictogram



Signal word Warning

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.
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.

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Precautionary statements

P273 Avoid release to the environment.
 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.
 P280 Wear protective clothing, gloves, eye and face protection.
 P501 Dispose of contents/ container in accordance with local regulations.

Contains

HYDROQUINONE, pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate, 1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone

Other hazards

No information available.

3. Composition/information on ingredients

Mixtures

Sodium Sulfite CAS number: 7757-83-7	10-30%
Classification Not Classified	
Potassium Carbonate CAS number: 584-08-7	5-10%
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335	
HYDROQUINONE CAS number: 123-31-9 M factor (Acute) = 10	< 3%
Classification Acute Tox. 4 - H302 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Muta. 2 - H341 Carc. 2 - H351 Aquatic Acute 1 - H400	
pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate CAS number: 140-01-2	1-5%
Classification Acute Tox. 4 - H332 Repr. 2 - H361fd STOT RE 2 - H373	

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SODIUM HYDROXIDE	<1%
CAS number: 1310-73-2	
Classification Skin Corr. 1A - H314 Eye Dam. 1 - H318	
1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone	<1%
CAS number: 13047-13-7	
Classification Acute Tox. 4 - H302 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411	

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

4. First-aid measures

Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Get medical attention if any discomfort continues.
Skin Contact	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.
Eye contact	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

Inhalation	No specific symptoms known.
Ingestion	No specific symptoms known.
Skin contact	May cause sensitisation by skin contact.
Eye contact	Irritation of eyes and mucous membranes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	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.

Special hazards arising from the substance or mixture

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

Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapors.
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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 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 uses(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): OSHA 2 mg/m³

Long-term exposure limit (8-hour TWA): ACGIH 1 mg/m³

A3, DSens

SODIUM HYDROXIDE

Ceiling exposure limit: ACGIH 2 mg/m³

Long-term exposure limit (8-hour TWA): OSHA 2 mg/m³

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

DSens = Dermal sensitizer.

Exposure controls

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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.
Color	Colorless to pale yellow.
Odor	No characteristic odor.
pH	pH (concentrated solution): 10.5 pH (diluted solution): 10.4 (1+4)
Initial boiling point and range	>100°C @ 760 mm Hg
Relative density	1.22 @ 20°C
Solubility(ies)	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.

11. Toxicological information

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.
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Acute toxicity - oral

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ATE oral (mg/kg)	13,082.16
<u>Acute toxicity - inhalation</u>	
ATE inhalation (gases ppm)	314,333.61
ATE inhalation (vapours mg/l)	768.37
ATE inhalation (dusts/mists mg/l)	104.78
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	The product contains a substance that is classified as: Suspected of causing genetic defects.
<u>Carcinogenicity</u>	
Carcinogenicity	The product contains a substance that is classified as: Suspected of causing cancer.
<u>Reproductive toxicity</u>	
Reproductive toxicity - development	The product contains a substance that is classified as: Suspected of damaging fertility or the unborn child.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	The product contains a substance that is classified as: May cause damage to organs through prolonged or repeated exposure if inhaled.
Inhalation	May cause respiratory system irritation.
Ingestion	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.
Acute and chronic health hazards	Prolonged or repeated exposure may cause severe irritation. May cause skin irritation/eczema. May cause sensitisation by skin contact. Irritating to eyes. Vapor or spray in the eyes may cause irritation and smarting. May cause allergy. May cause hypersensitivity.
Route of entry	Ingestion. Skin and/or eye contact
Medical considerations	May aggravate existing: Skin disorders and allergies. Pre-existing eye problems.

HYDROQUINONE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 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.

pentasodium (carboxylatomethyl)iminobis(ethylenitrilo)tetraacetate

Acute toxicity - inhalation

ATE inhalation (gases ppm) 4,500.0

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ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

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

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 566.0

Species Rat

ATE oral (mg/kg) 566.0

12. Ecological Information

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

HYDROQUINONE

Acute aquatic toxicity

LE(C)₅₀ 0.01 < L(E)C50 ≤ 0.1

M factor (Acute) 10

Acute toxicity - fish LC₅₀, 96 hours: 0.10-0.18 (Fathead Minnow) mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.05 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 1.0 mg/l, Algae

pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate

Acute toxicity - fish LC₅₀, 96 hours: >1000 (Iepomis macrochirus) mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >500 (daphnia magna) mg/l, Daphnia magna

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

Acute toxicity - fish LC₅₀, 96 hours: 32 (Rainbow Trout) mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 1.7 mg/l, Daphnia magna

Persistence and degradability

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

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Mobility in soil

Mobility The product is soluble in water.

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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 Exceptions relating to marine pollutants in small packages apply to this product, so that it is not required to be labelled or transported in accordance with dangerous goods regulations. See 49CFR 171.4 (c), IATA SP A197, and IMDG 2.10.2.7.

UN Number

UN No. (TDG)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082
UN No. (DOT)	UN3082

UN proper shipping name

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

Transport hazard class(es)

DOT hazard class	9
DOT hazard label	9
TDG class	9 (M6)
TDG label(s)	9
IMDG Class	9
ICAO class/division	9

Transport labels



DOT transport labels



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Packing group

TDG Packing Group	III
IMDG packing group	III
ICAO packing group	III
DOT packing group	III

Environmental hazards

Environmentally Hazardous Substance



Special precautions for user

EmS	F-A, S-F
DOT reportable quantity	RQ: Sodium hydroxide (259807.7423 lbs), RQ: Hydroquinone (3488.5749 lbs)

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

15. Regulatory information

US State Regulations

State Regulations Comments No information available.

Inventories

US - TSCA

Water

Sodium Sulfite

Potassium Carbonate

HYDROQUINONE

pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate

Sodium Bromide

SODIUM HYDROXIDE

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

3,3'-dithiobis(3-phenylpropionic) acid

4-Sulphophenyl Thiosemicarbazide (K Salt)

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.

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Key literature references and sources for data	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	SHE.Team@harmantechnology.com
Revision date	9/12/2017
Revision	2
Supersedes date	14/05/2015
Hazard statements in full	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. 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. H335 May cause respiratory irritation. H341 Suspected of causing genetic defects. H351 Suspected of causing cancer. 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.