

ZONE IMAGING

Zone Imaging Ltd.

Safety Data Sheet

510 Pyro Film Developer

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

1.1. Product identifier

Product name	510 Pyro
Container size	100ml, 500ml

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

Identified uses	Photographic Developer Solution
Other uses	None

1.3. Details of the supplier of the safety data sheet

Supplier	Zone Imaging Ltd., 78 Calabria Road, London, N5 1HU, UK
Tel	0207 226 9086
Email	james.lane@zoneimaginglab.co.uk
Emergency tel	+4477 609 96 515
Toll free number (US)	877 817 4320

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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Classification (EC 1272/2008)

2.2. Label elements

Pictograms



Signal word

Danger

Hazard statements

H301 – Toxic if swallowed. Acute tox. 3

H312 – Harmful in contact with skin. Acute tox. 4

H315 – Causes skin irritation. Skin irritation 2

H319 – Causes serious eye irritation. Eye dam. 2

H332 – Harmful if inhaled. Acute tox. 4

H341 – Suspected of causing genetic defects. Muta. 2

H412 – Harmful to aquatic life with long lasting effects. Aquatic chronic 3

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P202 Do not handle until all safety precautions have been read and understood.

P264 Wash all equipment used thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 If on skin wash with plenty of soap and water.

P304+P340 If inhaled remove individual to fresh air and keep at rest in a position comfortable for breathing.

P301+P312 If swallowed, call a poison centre or doctor/physician if you feel unwell.

P305+P351+P338 If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a poison centre or doctor/physician if you feel unwell.

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P332+P313 If skin irritation occurs get medical advice/attention.

P337+P313 If eye irritation persists: get medical advice/attention.

P405 Store locked up away from the reach of children or pets.

P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

Contains

PYROGALLOL

SECTION 3: Composition/information on ingredients**3.1. Mixture of the substances listed below with harmless additions**

CAS# 87-66-1 EC# 201-762-9	Pyrogallol Acute Tox. 4 H302 Acute Tox. 4 H312 Skin irritation 2 H315 Acute Tox. 4 H332 Muta. 2 H341 Aquatic chronic 3 H412	10-15%
CAS# 102-71-6 EC# 203-049-8	Triethanolamine Eye dam. 2 H319	75-85%
CAS# 92-43-3 EC# 202-155-1	1-phenyl-3-pyrazolidone (Phenidone A) Acute Tox. 4 H302 Aquatic Chronic 2 H411	0.1-0.5%
CAS# 50-81-7 EC#	L-Ascorbic Acid	5-10%

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Instantly remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore, ensure medical observation for at least 24 hours after the accident.

Inhalation

Loosen clothing as necessary and position individual in a comfortable position exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Get medical assistance if cough or other symptoms appear.

Ingestion

Remove victim immediately from source of exposure. Rinse mouth thoroughly. Drink a few glasses of water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention.

Skin contact

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

Eye contact

Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at

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least 15 minutes. Get medical attention if irritation persists after washing.

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

Headache. Nausea. Shortness to breath. Irritating to eyes. May cause skin and respiratory irritation. May cause an allergic skin reaction. May cause gastrointestinal irritation, vomiting and diarrhoea. May cause adverse liver and kidney effects.

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

Notes for the doctor Provide SDS document. Doctor should treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide, dry chemical powder, water spray.

Unsuitable extinguishing media Not available

5.2. Special hazards arising from the substance or mixture

Specific risks None, this product is non-flammable nor explosive.

Hazardous combustion products Thermal decomposition or combustion products may include carbon and nitrogen oxides and other toxic vapours.

5.3. Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapours.

Special protective equipment Wear protective eyewear, gloves and clothing. Use NIOSH approved respiratory protection/breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Environmental precautions Inform respective authorities in case product reaches water or sewage system. Do not discharge into drains or watercourses or onto the ground. Collect and dispose of spillage as indicated in Section 13.

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6.3. 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.

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container away from light and somewhere dry. Storage advice to ensure the product remains in a useable condition throughout its specified shelf life: Store at temperatures above 10°C. Store at temperatures not exceeding 30°C.

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

TRIETHANOLAMINE

CAS# 102-71-6

Long-term exposure limit (8-hour TWA): WEL 5mg/m³

ASCORBIC ACID

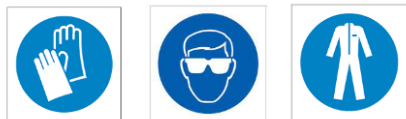
CAS# 50-81-7

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Long-term exposure limit (8-hour TWA): WEL 15mg/m³

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

Tightly sealed safety glasses or face shield.

Hand protection

Use protective gloves. The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. Only use chemical-protective gloves with CE-labelling of category III. Avoid contact with used gloves.

Recommended material of gloves: Nitrile rubber, butyl rubber. Recommended thickness of the material: ≥ 0.5 mm

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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Viscous liquid
Colour	Amber, aged is a deep brown
Odour	No characteristic odour
pH @20°C	Concentrated solution: N/A Working solution (1:100): 9.5
Relative density/specific gravity	1.22 @20°C
Initial boiling point and range	>300°C @ 760 mm Hg
Initial freezing point and range	<7°C @760mm Hg
Flash point (closed cup)	>93.33°C
Auto-ignition temperature	This product is not self-igniting.

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Explosive properties	This product is non-explosive.
Solubility	Miscible
Additional property	Hygroscopic

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity See the other subsections of this section for further details.

10.2. Chemical stability

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

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

10.5. Incompatible materials

Materials to avoid Strong 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: oxides of carbon, sodium and nitrogen.

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.
Germ cell mutagenicity	The product contains a substance that is classified as: Suspected of causing genetic defects.
Carcinogenicity	The product contains no carcinogenic substances.
Reproductive toxicity	No data available.

510 Pyro Film Developer**Specific target organ toxicity**

STOT - single exposure: No data available.

STOT – repeated exposure: No data available.

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. Vapour or spray in the eyes may cause irritation and smarting. May cause allergy. May cause hypersensitivity.

Acute toxicity LD/LC50 values that are relevant for classification:		
Pyrogallol		
Oral	LD50	790mg/kg (rat)
Triethanolamine		
Oral	LD50	6,400 mg/kg (rat)
L-Ascorbic Acid		
Oral	LD50	11900 mg/kg (rat)
1-phenyl-3-pyrazolidone (Phenidone A)		
Oral	LD50	300 mg/kg (rat)

SECTION 12: Ecological Information**12.1. Toxicity****Toxicity**

The product contains a substance which is harmful to aquatic organisms.

PYROGALLOL**Acute toxicity – fish**

LC50, 96 hours: 41.8 mg/l, Danio rerio (zebra fish)

Acute toxicity – aquatic invertebrates EC50, 24 hours: 47.8 mg/l, Daphnia magna (Water flea)

Acute toxicity – algae No data available

Acute toxicity – bacteria EC50, 16 hours: 3.8 mg/l, Pseudomonas putida

TRIEETHANOLAMINE**Acute toxicity – fish**

LC50, flow-through test - 96 hours: 11,800 mg/l, Pimephales promelas (fathead minnow)

Acute toxicity – aquatic invertebrates EC50, static test – 48 hours: 609.88 mg/l, Ceriodaphnia dubia (water flea)

Acute toxicity – algae ErC50, static test - 72 hours: 216 mg/l, Desmodesmus subspicatus (green algae)

Acute toxicity – bacteria IC50, static test - 3 hours activated sludge: > 1,000 mg/l

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L-ASCORBIC ACID

Acute toxicity – fish	LC50, 96 hours: 1,020 mg/l, Oncorhynchus mykiss (rainbow trout)
Acute toxicity – aquatic invertebrates	EC50, 48 hours: 360 mg/l, Daphnia magna (Water flea)
Acute toxicity – algae	IC50, 72 hours: 1,750 mg/l, Desmodesmus subspicatus (green algae)
Acute toxicity – bacteria	EC50, 16 hours: 140mg/l, Pseudomonas putida

1-PHENYL-3-PYRAZOLIDONE (PHENIDONE A)

Acute toxicity – fish	No data available
Acute toxicity – aquatic invertebrates	EC50, 48 hours: 6.25 mg/l, Daphnia magna (Water flea)
Acute toxicity – algae	No data available
Acute toxicity – bacteria	EC50, 5 min: 3.02 mg/l, photobacterium phosphoreum

12.2. Persistence and degradability

Persistence and degradability	Triethanolamine is rapidly biodegradable. L-ascorbic acid and pyrogallol are readily biodegradable. 1-phenyl-3-pyrazolidone (Phenidone A) is inherently biodegradable.
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12.3. Bioaccumulation

Bioaccumulation	No data available. Unlikely as product is soluble in water.
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12.4. Mobility in soil

Mobility in soil	Product is soluble in water.
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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.
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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. Waste that cannot be discharged to sewer may have to be handled by a licensed hazardous waste contractor.
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Waste class

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SECTION 14: Transport information

UN Number (ADR/RID, IMDG, IATA)	UN2810 UN3082
UN Proper Shipping Name (ADR/RID, IMDG, IATA)	Toxic Liquid Organic, N.O.S. (pyrogallol, 1-phenyl-3-pyrazolidone (Phenidone A))
Transport Hazard Class(es) ADR/RID, IMDG, IATA 	
Class	6 Toxic substances 9 Miscellaneous dangerous substances and articles
Packing group (ADR/RID, IMDG, IATA)	III
Environmental hazards	Symbol (fish and tree)
Special precautions for user	Warning: Toxic substances. Miscellaneous dangerous substances and articles.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
Transport/Additional Information	These substances when transported in single or combination packaging contains a net quantity per single or inner packaging of 5l or less for liquids are not subject to any other provisions of these regulations provided the packaging meet the general. See the following notes:
ADR/RID	Goods are not subject to the provisions in accordance with the special provision 375 ADR.
IMDG	Goods are not subject to the provisions in accordance with 2.10.2.7 IMDG-Code.
IATA	Goods are not subject to the provisions in accordance with the special provision 197 IATADGR.

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).

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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.

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)

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

General information

Zone Imaging 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.

Issued by

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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

Sigma-Aldrich, 1-phenyl-3-pyrazolidone (Phenidone A) SDS - <https://www.sigmaaldrich.com/GB/en/sds/aldrich/127914>

Sigma-Aldrich, triethanolamine SDS - <https://www.sigmaaldrich.com/GB/en/sds/sigma/90279>

Sigma-Aldrich, l-ascorbic acid SDS - <https://www.sigmaaldrich.com/GB/en/sds/sial/a92902>

Sigma-Aldrich, pyrogallol SDS - <https://www.sigmaaldrich.com/GB/en/sds/sigma/p0381>

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road (Accord Européen sur le Transport des Marchandises Dangereuses par Route)

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EC: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration at which 50% of the animals will be expected to die.

LD50: Lethal dose at which 50% of the animals will be expected to die.

EC50: Effective concentration of test substance which results in a 50 percent reduction in either algae growth (EbC50) or algae growth rate (ErC50) or Daphnia immobilization.

Hazard statements in full

H301 – Toxic if swallowed. Acute tox. 3

H312 – Harmful in contact with skin. Acute tox. 4

H315 – Causes skin irritation. Skin irritation 2

H319 – Causes serious eye irritation. Eye dam. 2

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H332 – Harmful if inhaled. Acute tox. 4

H341 – Suspected of causing genetic defects. Muta. 2

H412 – Harmful to aquatic life with long lasting effects.
Aquatic chronic 3