SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product name: PQ Universal Developer
Product No.: 1155091; 1155082; 1757314
Internal Id: 10027
Container size: 500ml 1 Litre 5 Litre

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: Distributors
UK: HARMAN technology Ltd, Ilford Way, Mobberley, Cheshire, WA16 7JL, UK Tel: 01565 650000, Fax: 01565 872734. (http://www.harmantechnology.com)
Australia: CR Kennedy & Co Pty Ltd, 663 Chapel Street, South Yarra, Victoria 3141, Australia. Tel: 03 9823 1555, Fax: 03 9827 7216
Contact Person: UK: HS&E Advisor Dr Trevor Rhodes Tel: +44(0)1565 650000, email: trevor.rhodes@harmantechnology.com Australia: Contact Distributor (http://www.crkennedy.com.au) Tel +61 (0)3 9823 1555

1.4. Emergency telephone number
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

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture
Classification (1999/45/EEC): Carc. Cat. 3; R40, Muta Cat. 3; R68. Xi; R36. R43. N; R50.

2.2. Label elements
Contains: HYDROQUINONE

Risk Phrases
R36 Irritating to eyes.
R40 Limited evidence of a carcinogenic effect.
R43 May cause sensitisation by skin contact.
R50 Very toxic to aquatic organisms.
R68 Possible risk of irreversible effects.
**PQ Universal Developer**

### Safety Phrases

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2</td>
<td>Keep out of the reach of children.</td>
</tr>
<tr>
<td>S26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td>S36/37</td>
<td>Wear suitable protective clothing and gloves.</td>
</tr>
<tr>
<td>S46</td>
<td>If swallowed, seek medical advice immediately and show this container or label.</td>
</tr>
<tr>
<td>S61</td>
<td>Avoid release to the environment. Refer to special instructions/safety data sheets.</td>
</tr>
<tr>
<td>S64</td>
<td>If swallowed, rinse mouth with water (only if the person is conscious).</td>
</tr>
</tbody>
</table>

#### 2.3. Other hazards

No information available.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS-No.</th>
<th>EC No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Phenyl-4-Methyl-4-Hydroxymethyl-3-Pyrazolidone</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>CAS-No.: 13047-13-7</td>
<td>EC No.: 235-920-3</td>
<td></td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
<td>Classification (67/548/EEC)</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H302</td>
<td>Xn;R22</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td>N;R51/53</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
<td>R43</td>
<td></td>
</tr>
</tbody>
</table>

| Diethylenetriamine Pentaacetic Acid Na5 | 1-5% |
| CAS-No.: 140-01-2 | EC No.: 205-391-3 |
| Classification (EC 1272/2008) | Classification (67/548/EEC) |
| Skin Irrit. 2 - H315 | Xi;R36/38 |
| Eye Irrit. 2 - H319 |

| HYDROQUINONE | 1-5% |
| CAS-No.: 123-31-9 | EC No.: 204-617-8 |
| Classification (EC 1272/2008) | Classification (67/548/EEC) |
| Acute Tox. 4 - H302 | Carc. Cat. 3;R40 |
| Eye Dam. 1 - H318 | Muta. Cat. 3;R68 |
| Skin Sens. 1 - H317 | Xn;R22 |
| Muta. 2 - H341 | R43 |
| Carc. 2 - H351 | Xi;R41 |
| Aquatic Acute 1 - H400 | N;R50 |

| Potassium Carbonate | 5-10% |
| CAS-No.: 584-08-7 | EC No.: 209-529-3 |
| Classification (EC 1272/2008) | Classification (67/548/EEC) |
| Skin Irrit. 2 - H315 | Xi;R36,R38 |
| Eye Irrit. 2 - H319 |
SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation
Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion
Rinse mouth thoroughly. 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. 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.

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

Inhalation
No specific symptoms noted.

Ingestion
No specific symptoms noted.

Skin contact
May cause sensitisation by skin contact.

Eye contact
Irritation of eyes and mucous membranes.

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

No specific first aid measures noted.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

Special Fire Fighting Procedures
Avoid breathing fire vapours.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin and eyes. Provide adequate ventilation.

6.2. 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.

6.3. Methods and material for containment and cleaning up
For waste disposal, see section 13. Small quantities may be flushed to drains with plenty of water. Prevent discharge of larger quantity to drain. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Wash contaminated area with water. Do not let washing down water contaminate ponds or waterways.

6.4. 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
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.

7.2. Conditions for safe storage, including any incompatibilities
Store in closed original container in a dry place. Store under well-ventilated conditions at a temperature below 25°C.

7.3. 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

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA - 8 Hrs</th>
<th>STEL - 15 Min</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HYDROQUINONE</td>
<td>WEL</td>
<td>0.5 mg/m3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SODIUM HYDROXIDE</td>
<td>WEL</td>
<td>2 mg/m3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit.

8.2. Exposure controls
Protective equipment

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

Respiratory equipment
Respiratory protection not required.
PQ Universal Developer

Hand protection
Use protective gloves.

Eye protection
Use eye protection.

Other Protection
Wear suitable protective clothing as protection against splashing or contamination.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless to pale yellow.</td>
</tr>
<tr>
<td>Odour</td>
<td>No characteristic odour.</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>&gt;100 760 mm Hg</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.23</td>
</tr>
<tr>
<td>pH-Value, Conc. Solution</td>
<td>10.5</td>
</tr>
<tr>
<td>pH-Value, Diluted Solution</td>
<td>10.5 (1 + 9)</td>
</tr>
</tbody>
</table>

9.2. Other information
Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No specific reactivity hazards associated with this product.

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

10.3. Possibility of hazardous reactions

Hazardous Polymerisation
Will not polymerise.

10.4. 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
Fire or high temperatures create: Sulphurous gases (SOx).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

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.

Other Health Effects
PQ Universal 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.

Route of entry
Skin and/or eye contact. Ingestion.

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

Toxicological information on ingredients.

HYDROQUINONE (CAS: 123-31-9)

Toxic Dose 1 - LD 50
320 mg/kg (oral rat)

Toxic Dose 2 - LD 50
>900 mg/kg (skin-rat)

Diethylenetriamine Pentaacetic Acid Na5 (CAS: 140-01-2)

Toxic Dose 1 - LD 50
>4000 mg/kg (oral rat)

Potassium Carbonate (CAS: 584-08-7)

Toxic Dose 1 - LD 50
2570 mg/kg (oral-mouse)

Toxic Dose 2 - LD 50
1870 mg/kg (oral rat)

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
The product contains a substance that is very toxic to aquatic organisms.
Ecological information on ingredients.

HYDROQUINONE (CAS: 123-31-9)

- **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

Diethylenetriamine Pentaacetic Acid Na5 (CAS: 140-01-2)

- **LC 50, 96 Hrs, Fish mg/l**: >1000 (lepomis macrochirus)
- **EC 50, 48 Hrs, Daphnia, mg/l**: >500 (daphnia magna)

Sodium Sulphite (CAS: 7757-83-7)

- **LC 50, 96 Hrs, Fish mg/l**: 220 - 460
- **EC 50, 48 Hrs, Daphnia, mg/l**: 69

12.2. Persistence and degradability

**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

This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

None known.

SECTION 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.

13.1. Waste treatment 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.

SECTION 14: TRANSPORT INFORMATION

**General**
LIMITED QUANTITY EXEMPTION

14.1. UN number

**UN No. (ADR/RID/ADN)**
3082
PQ Universal Developer

UN No. (IMDG) 3082
UN No. (ICAO) 3082

14.2. UN proper shipping name
Proper Shipping Name UN3082, Environmentally hazardous substance, liquid, n.o.s. (contains hydroquinone).

14.3. Transport hazard class(es)
ADR/RID/ADN Class 9 (M6)
ADR/RID/ADN Class Class 9: Other dangerous substances.
ADR Label No. 9
IMDG Class 9
ICAO Class/Division 9
Transport Labels

14.4. Packing group
ADR/RID/ADN Packing group III
IMDG Packing group III
ICAO Packing group III

14.5. Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant

14.6. Special precautions for user
EMS F-A, S-F
Hazard No. (ADR) 90 Environmentally hazardous substance; miscellaneous dangerous substances.
Tunnel Restriction Code (E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

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

No chemical safety assessment has been carried out.

SECTION 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

Issued By            HS&E Advisor Dr Trevor Rhodes Tel: +44(0)1565 650000, email: trevor.rhodes@harmantechnology.com
Revision Date        14/11/2013
Revision             7
Supercedes date      06/08/2010

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.

Hazard Statements in Full
H318                  Causes serious eye damage.
H319                  Causes serious eye irritation.
H314                  Causes severe skin burns and eye damage.
H315                  Causes skin irritation.
H302                  Harmful if swallowed.
H317                  May cause an allergic skin reaction.
H351                  Suspected of causing cancer.
H341                  Suspected of causing genetic defects.
H411                  Toxic to aquatic life with long lasting effects.
H400                  Very toxic to aquatic life.