

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/06/2020

Reviewed on 04/06/2020

## 1 Identification

- **Product identifier**
- **Trade name:** ILFORD MutiGrade Paper Developer
- **Article number:** 83050-05, 83050-50
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

2,2'-iminodiethylamine

hydroquinone

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**Trade name: ILFORD MuliGrade Paper Developer**

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· **Hazard statements**

*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*  
*Suspected of causing genetic defects.*  
*Suspected of causing cancer.*

· **Precautionary statements**

*Obtain special instructions before use.*  
*Do not handle until all safety precautions have been read and understood.*  
*Do not breathe dusts or mists.*  
*Wash thoroughly after handling.*  
*Contaminated work clothing must not be allowed out of the workplace.*  
*Wear protective gloves/protective clothing/eye protection/face protection.*  
*If swallowed: Rinse mouth. Do NOT induce vomiting.*  
*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*  
*Continue rinsing.*  
*Immediately call a poison center/doctor.*  
*IF exposed or concerned: Get medical advice/attention.*  
*Specific treatment (see on this label).*  
*If skin irritation or rash occurs: Get medical advice/attention.*  
*Wash contaminated clothing before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

584-08-7	potassium carbonate	>2.5-≤10%
111-40-0	2,2'-iminodiethylamine	>2.5-≤10%
123-31-9	hydroquinone	>2.5-≤10%

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13047-13-7 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

≤2.5%

## 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

584-08-7	potassium carbonate	5.6 mg/m <sup>3</sup>
111-40-0	2,2'-iminodiethylamine	3 ppm
123-31-9	hydroquinone	3 mg/m <sup>3</sup>

· **PAC-2:**

584-08-7	potassium carbonate	62 mg/m <sup>3</sup>
111-40-0	2,2'-iminodiethylamine	8.5 ppm

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123-31-9	hydroquinone	20 mg/m <sup>3</sup>
<b>· PAC-3:</b>		
584-08-7	potassium carbonate	370 mg/m <sup>3</sup>
111-40-0	2,2'-iminodiethylamine	51 ppm
123-31-9	hydroquinone	120 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

### 111-40-0 2,2'-iminodiethylamine

REL	Long-term value: 4 mg/m <sup>3</sup> , 1 ppm Skin
TLV	Long-term value: 4.2 mg/m <sup>3</sup> , 1 ppm Skin

### 123-31-9 hydroquinone

PEL	Long-term value: 2 mg/m <sup>3</sup>
REL	Ceiling limit value: 2* mg/m <sup>3</sup> *15-min
TLV	Long-term value: 1 mg/m <sup>3</sup> DSEN

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.

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Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Clear
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value at 20 °C (68 °F):** 10

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	>100 °C (>212 °F)

· **Flash point:** 97 °C (206.6 °F)

· **Flammability (solid, gaseous):** Not flammable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

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· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b>	1.235 g/cm <sup>3</sup> (10.30608 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC content:</b>	0.00 % 0.0 g/l / 0.00 lb/gal
<b>Solids content:</b>	15.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

### 111-40-0 2,2'-iminodiethylamine

Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	1,090 mg/kg (rabbit)

### 123-31-9 hydroquinone

Oral	LD50	320 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

123-31-9 hydroquinone	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** UN2735

· **UN proper shipping name**

· **DOT** Amines, liquid, corrosive, n.o.s. (Diethylenetriamine)

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· **ADR** 2735 AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), ENVIRONMENTALLY HAZARDOUS  
AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), MARINE POLLUTANT  
· **IMDG** AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), MARINE POLLUTANT  
· **IATA** AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE)

· **Transport hazard class(es)**· **DOT**

· **Class** 8 Corrosive substances  
· **Label** 8

· **ADR, IMDG**

· **Class** 8 Corrosive substances  
· **Label** 8

· **IATA**

· **Class** 8 Corrosive substances  
· **Label** 8

· **Packing group**· **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances:  
hydroquinone

· **Marine pollutant:** Symbol (fish and tree)

· **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 80

· **EMS Number:** F-A,S-B

· **Segregation groups** Alkalis

· **Stowage Category** A

· **Segregation Code** SG35 Stow "separated from" SGG1-acids

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

· **Transport/Additional information:**· **DOT**

· **Quantity limitations** On passenger aircraft/rail: 1 L  
On cargo aircraft only: 30 L

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· <b>ADR</b> · <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

123-31-9 hydroquinone

- **Section 313 (Specific toxic chemical listings):**

123-31-9 hydroquinone

- **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

123-31-9 hydroquinone

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

123-31-9 hydroquinone

A3

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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**Trade name: ILFORD MuliGrade Paper Developer**

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· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

2,2'-iminodiethylamine  
hydroquinone

· **Hazard statements**

*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*  
*Suspected of causing genetic defects.*  
*Suspected of causing cancer.*

· **Precautionary statements**

*Obtain special instructions before use.*  
*Do not handle until all safety precautions have been read and understood.*  
*Do not breathe dusts or mists.*  
*Wash thoroughly after handling.*  
*Contaminated work clothing must not be allowed out of the workplace.*  
*Wear protective gloves/protective clothing/eye protection/face protection.*  
*If swallowed: Rinse mouth. Do NOT induce vomiting.*  
*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Immediately call a poison center/doctor.*  
*IF exposed or concerned: Get medical advice/attention.*  
*Specific treatment (see on this label).*  
*If skin irritation or rash occurs: Get medical advice/attention.*  
*Wash contaminated clothing before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Date of preparation / last revision** 04/06/2020 / -

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*ACGIH: American Conference of Governmental Industrial Hygienists*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*

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*LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety **Health****TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**Muta. 2: Germ cell mutagenicity – Category 2**Carc. 2: Carcinogenicity – Category 2*

US

# Safety Data Sheet

## according to WHS Regulations

Printing date 06.04.2020

Revision: 06.04.2020

### 1 Identification

- **Product identifier**
- **Trade name:** ILFORD MutiGrade Paper Developer
- **Article number:** 83050-05, 83050-50
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: [ems.proscitech.com](http://ems.proscitech.com)
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: [www.emgrid.com.au](http://www.emgrid.com.au)
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS08 health hazard

Muta. 2      H341 Suspected of causing genetic defects.

Carc. 2      H351 Suspected of causing cancer.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

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Trade name: **ILFORD MutiGrade Paper Developer**

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*Skin Sens. 1 H317 May cause an allergic skin reaction.*

· **Label elements**

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05   GHS07   GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

2,2'-iminodiethylamine  
hydroquinone

· **Hazard statements**

*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*Suspected of causing cancer.*

· **Precautionary statements**

*Obtain special instructions before use.*

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

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Contaminated work clothing should not be allowed out of the workplace.*

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

*IF SWALLOWED: rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

*IF exposed or concerned: Get medical advice/attention.*

*Specific treatment (see on this label).*

*If skin irritation or rash occurs: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

584-08-7	potassium carbonate	>2.5-≤10%
111-40-0	2,2'-iminodiethylamine	>2.5-≤10%
123-31-9	hydroquinone	>2.5-≤10%

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**Trade name: ILFORD MuliGrade Paper Developer**

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13047-13-7 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

≤2.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First Aid Measures

- **Description of first aid measures**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.

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AU

# Safety Data Sheet

## according to WHS Regulations

Printing date 06.04.2020

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**Trade name: ILFORD MuliGrade Paper Developer**

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**111-40-0 2,2'-iminodiethylamine**

WES	Long-term value: 4.2 mg/m <sup>3</sup> , 1 ppm Sk, Sen
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**123-31-9 hydroquinone**

WES	Long-term value: 2 mg/m <sup>3</sup>
-----	--------------------------------------

- **Additional information:** The lists valid during the making were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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# Safety Data Sheet

according to WHS Regulations

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Trade name: **ILFORD MuliGrade Paper Developer**

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

## 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Colour:</b>	Clear
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value at 20 °C:** 10· **Change in condition**

· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Initial boiling point and boiling range:</b>	>100 °C

· **Flash point:** 97 °C· **Flammability (solid, gas):** Not applicable.· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product does not present an explosion hazard.· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapour pressure:** Not determined.

· <b>Density at 20 °C:</b>	1.235 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**· **VOC (EC)** 0.00 %· **Solids content:** 15.0 %· **Other information** No further relevant information available.

AU

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# Safety Data Sheet

## according to WHS Regulations

Printing date 06.04.2020

Revision: 06.04.2020

Trade name: **ILFORD MuliGrade Paper Developer**

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### 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values relevant for classification:**

**111-40-0 2,2'-iminodiethylamine**

Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	1,090 mg/kg (rabbit)

**123-31-9 hydroquinone**

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Muta. 2, Carc. 2

### 12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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# Safety Data Sheet

## according to WHS Regulations

Printing date 06.04.2020

Revision: 06.04.2020

**Trade name: ILFORD MuliGrade Paper Developer**



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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

· <b>UN-Number</b> · <b>ADG, IMDG, IATA</b>	UN2735
· <b>UN proper shipping name</b> · <b>ADG</b>	2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), ENVIRONMENTALLY HAZARDOUS
· <b>IMDG</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), MARINE POLLUTANT
· <b>IATA</b>	AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
· <b>Transport hazard class(es)</b> · <b>ADG, IMDG</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances. 8
· <b>IATA</b>	
	
· <b>Class</b> · <b>Label</b>	8 Corrosive substances. 8
· <b>Packing group</b> · <b>ADG, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Product contains environmentally hazardous substances: hydroquinone
· <b>Marine pollutant:</b>	Symbol (fish and tree)
· <b>Special marking (ADG):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Corrosive substances.

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# Safety Data Sheet

## according to WHS Regulations

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Trade name: **ILFORD MuliGrade Paper Developer**

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· <b>Hazard identification number (Kemler code):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

123-31-9	hydroquinone	S2, S4, S6
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· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

2,2'-iminodiethylamine

hydroquinone

· **Hazard statements**

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

(Contd. on page 9)

# Safety Data Sheet

## according to WHS Regulations

Printing date 06.04.2020

Revision: 06.04.2020

**Trade name: ILFORD MuliGrade Paper Developer**

(Contd. of page 8)

*Suspected of causing genetic defects.*

*Suspected of causing cancer.*

**· Precautionary statements**

*Obtain special instructions before use.*

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

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

*Contaminated work clothing should not be allowed out of the workplace.*

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

*IF SWALLOWED: rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

*IF exposed or concerned: Get medical advice/attention.*

*Specific treatment (see on this label).*

*If skin irritation or rash occurs: Get medical advice/attention.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

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

**· Directive 2012/18/EU**

**· Named dangerous substances - ANNEX I** None of the ingredients is listed.

**· Seveso category E1** Hazardous to the Aquatic Environment

**· Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

**· Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Muta. 2: Germ cell mutagenicity – Category 2*

*Carc. 2: Carcinogenicity – Category 2*

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

### 1 Identification

- **Product identifier**
- **Trade name:** ILFORD MutiGrade Paper Developer
- **Article number:** 83050-05, 83050-50
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Germ Cell Mutagenicity - Category 2 H341 Suspected of causing genetic defects.

Carcinogenicity – Category 2 H351 Suspected of causing cancer.



GHS05 Corrosion

Skin Corrosion - Category 1B H314 Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1 H318 Causes serious eye damage.



GHS07

Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
 2,2'-iminodiethylamine  
 hydroquinone

(Contd. on page 2)

CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

**Trade name: ILFORD MuliGrade Paper Developer**

(Contd. of page 1)

**· Hazard statements**

Causes severe skin burns and eye damage.  
 May cause an allergic skin reaction.  
 Suspected of causing genetic defects.  
 Suspected of causing cancer.

**· Precautionary statements**

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Wash thoroughly after handling.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Immediately call a poison center/doctor.  
 IF exposed or concerned: Get medical advice/attention.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Classification system:**
**· NFPA ratings (scale 0 - 4)**

**· HMIS-ratings (scale 0 - 4)**


### 3 Composition/Information on ingredients

**· Chemical characterization: Mixtures**
**· Description:** Mixture of the substances listed below with nonhazardous additions.

**· Dangerous components:**

584-08-7	potassium carbonate	5-10% w/w *
111-40-0	2,2'-iminodiethylamine	1-5% w/w *
123-31-9	hydroquinone	1-5% w/w *
13047-13-7	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one	0.1-1% w/w *

\* Actual concentration ranges are withheld as a trade secret.

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(Contd. on page 3)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

Trade name: **ILFORD MuliGrade Paper Developer**

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### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

(Contd. on page 4)

CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

**Trade name: ILFORD MultiGrade Paper Developer**

(Contd. of page 3)

· **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/ Personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

#### 111-40-0 2,2'-iminodiethylamine

EL TWA: 1 ppm  
Skin

EV TWA: 4 mg/m<sup>3</sup>, 1 ppm  
Skin

#### 123-31-9 hydroquinone

EL TWA: 1 mg/m<sup>3</sup>  
S(D)

EV TWA: 2 mg/m<sup>3</sup>

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

CA



# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

Trade name: **ILFORD MuliGrade Paper Developer**

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Color:</b>	Clear
· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.

· **pH-value at 20 °C:** 10· **Change in condition**

· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	>100 °C

· **Flash point:** 97 °C· **Flammability (solid, gaseous):** Not flammable.· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.

· **Vapor pressure:** Not determined.

· <b>Density at 20 °C:</b>	1.235 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.

· **Solubility in / Miscibility with**· **Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>Solids content:</b>	15.0 %
· <b>Other information</b>	No further relevant information available.

CA

(Contd. on page 6)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

Trade name: **ILFORD MuliGrade Paper Developer**

(Contd. of page 5)

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**111-40-0 2,2'-iminodiethylamine**

Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	1,090 mg/kg (rabbit)

**123-31-9 hydroquinone**

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

123-31-9	hydroquinone	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.

(Contd. on page 7)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

**Trade name: ILFORD MultiGrade Paper Developer**

(Contd. of page 6)

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

· **UN-Number**

· **DOT/TDG, ADR, IMDG, IATA**

UN2735

· **UN proper shipping name**

· **DOT/TDG**

· **ADR**

· **IMDG**

· **IATA**

Amines, liquid, corrosive, n.o.s. (Diethylenetriamine)

2735 AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), ENVIRONMENTALLY HAZARDOUS  
AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), MARINE POLLUTANT  
AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE)

· **Transport hazard class(es)**

· **DOT/TDG (Transport dangerous goods):**



· **Class**

8 Corrosive substances

· **Label**

8

· **ADR, IMDG**



· **Class**

8 Corrosive substances

· **Label**

8

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# Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/06/2020

Reviewed on 04/06/2020

Trade name: **ILFORD MutiGrade Paper Developer**

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· **IATA**

· **Class** 8 Corrosive substances  
 · **Label** 8

· **Packing group**  
 · **DOT/TDG, ADR, IMDG, IATA** II

· **Environmental hazards:** Product contains environmentally hazardous substances: hydroquinone  
 · **Marine pollutant:** Symbol (fish and tree)  
 · **Special marking (ADR):** Symbol (fish and tree)

· **Special precautions for user** Warning: Corrosive substances  
 · **Hazard identification number (Kemler code):** 80  
 · **EMS Number:** F-A,S-B  
 · **Segregation groups** Alkalis  
 · **Stowage Category** A  
 · **Segregation Code** SG35 Stow "separated from" SGG1-acids

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

· **Transport/Additional information:**

· **DOT/TDG**  
 · **Quantity limitations** On passenger aircraft/rail: 1 L  
 On cargo aircraft only: 30 L

· **ADR**

· **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**

· **Limited quantities (LQ)** 1L  
 · **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 · **Sara**

· **Section 355 (extremely hazardous substances):**

123-31-9 | hydroquinone

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# Safety Data Sheet

## according to HPR, Schedule 1

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· **Section 313 (Specific toxic chemical listings):**

123-31-9	hydroquinone
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

584-08-7	potassium carbonate
111-40-0	2,2'-iminodiethylamine
13047-13-7	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

· **Canadian Ingredient Disclosure list (limit 0.1%)**

111-40-0	2,2'-iminodiethylamine
----------	------------------------

· **Canadian Ingredient Disclosure list (limit 1%)**

584-08-7	potassium carbonate
123-31-9	hydroquinone

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05    GHS07    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

2,2'-iminodiethylamine  
hydroquinone

· **Hazard statements**

Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.  
Suspected of causing genetic defects.  
Suspected of causing cancer.

· **Precautionary statements**

Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wash thoroughly after handling.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
**IF SWALLOWED:** Rinse mouth. Do NOT induce vomiting.  
**IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
**IF INHALED:** Remove person to fresh air and keep comfortable for breathing.  
**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a poison center/doctor.  
**IF exposed or concerned:** Get medical advice/attention.  
Specific treatment (see on this label).  
Take off contaminated clothing and wash it before reuse.  
If skin irritation or rash occurs: Get medical advice/attention.  
Wash contaminated clothing before reuse.  
Store locked up.

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Date of the latest revision of the safety data sheet** 04/06/2020 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

CA

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 06.04.2020

Herziening van: 06.04.2020

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** ILFORD MutiGrade Paper Developer
- **Artikelnummer:** 83050-05, 83050-50
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**  
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Aurion**  
Binnenhaven 5  
6709 PD Wageningen  
The Netherlands  
Tel: 31 317 415094  
Fax: 31 317 415955  
email: [info@aurion.nl](mailto:info@aurion.nl)
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS08 gezondheidsgevaar

Muta. 2            H341 Verdacht van het veroorzaken van genetische schade.  
Carc. 2            H351 Verdacht van het veroorzaken van kanker.



GHS05 corrosie

Skin Corr. 1B    H314 Veroorzaakt ernstige brandwonden en oogletsel.  
Eye Dam. 1     H318 Veroorzaakt ernstig oogletsel.



GHS09 milieu

Aquatic Acute 1 H400 Zeer giftig voor in het water levende organismen.



GHS07

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

*Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.*

### · 2.2 Etiketteringselementen

#### · Etikettering overeenkomstig Verordening (EG) nr. 1272/2008

Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

#### · Gevarenpictogrammen



GHS05 GHS07 GHS08 GHS09

#### · Signaalwoord Gevaar

#### · Gevaaraanduidende componenten voor de etikettering:

1,5-diamino-3-azapentaan  
hydrochinon

#### · Gevarenaanduidingen

H314 Veroorzaakt ernstige brandwonden en oogletsel.  
H317 Kan een allergische huidreactie veroorzaken.  
H341 Verdacht van het veroorzaken van genetische schade.  
H351 Verdacht van het veroorzaken van kanker.  
H400 Zeer giftig voor in het water levende organismen.

#### · Veiligheidsaanbevelingen

P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.  
Huid met water afspoelen [of afdouchen].  
P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.  
P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.  
P321 Specifieke behandeling vereist (zie op dit etiket).  
P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.  
P405 Achter slot bewaren.  
P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

#### · 2.3 Andere gevaren

#### · Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.  
· **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

### · 3.2 Chemische karakterisering: Mengsels

· **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

#### · Gevaarlijke inhoudstoffen:

CAS: 584-08-7 EINECS: 209-529-3	kaliumcarbonaat ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	>2,5-≤10%
CAS: 111-40-0 EINECS: 203-865-4	1,5-diamino-3-azapentaan ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	>2,5-≤10%
CAS: 123-31-9 EINECS: 204-617-8	hydrochinon ⚠ Muta. 2, H341; Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	>2,5-≤10%

(Vervolg op blz. 3)



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(Vervolg van blz. 2)

CAS: 13047-13-7

1-fenyl-4-(hydroxymethyl)-4-methylpyrazolidine-3-on

≤2,5%

EINECS: 235-920-3

⚠ Acute Tox. 4, H302

**· Aanvullende gegevens:**

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

### RUBRIEK 4: Eerstehulpmaatregelen

**· 4.1 Beschrijving van de eerstehulpmaatregelen**

**· Na het inademen:**

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

**· Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.

**· Na oogcontact:** Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.

**· Na inslikken:** Als de klachten niet minderen, een arts raadplegen

**· 4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

**· 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**

Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

**· 5.1 Blusmiddelen**

**· Geschikte blusmiddelen:**

CO<sub>2</sub>, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.

**· 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**

Geen verdere relevante informatie verkrijgbaar.

**· 5.3 Advies voor brandweerlieden**

**· Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

**· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures** Niet nodig.

**· 6.2 Milieuvoorzorgsmaatregelen:**

Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.

Met veel water verdunnen.

Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

**· 6.3 Insluitings- en reinigingsmethoden en -materiaal:**

Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.

Besmet materiaal zoals afval volgens punt 13 verwijderen.

Voor voldoende ventilatie zorgen.

**· 6.4 Verwijzing naar andere rubrieken**

Informatie inzake veilig gebruik - zie hoofdstuk 7.

Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.

Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

**· 7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**

Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.

Aërosolvorming vermijden.

(Vervolg op blz. 4)

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(Vervolg van blz. 3)

- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Geen.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**  
Het product bevat geen relevante hoeveelheden van stoffen, die met betrekking tot de werkplaatsen, qua grenswaarden gecontroleerd moeten worden.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**  
Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Aanraking met de huid vermijden.  
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**  
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.  
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

- **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.

- **Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

(Vervolg op blz. 5)

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· **Oogbescherming:**

Nauw aansluitende veiligheidsbril

### RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**· **Algemene gegevens**· **Voorkomen:**

· <b>Vorm:</b>	Vloeistof
· <b>Kleur:</b>	Helder
· <b>Geur:</b>	Karakteristiek
· <b>Geurdrempelwaarde:</b>	Niet bepaald.

· **pH-waarde bij 20 °C:** 10· **Toestandsverandering**

· <b>Smelt-/vriespunt:</b>	Niet bepaald.
· <b>Beginkookpunt en kooktraject:</b>	>100 °C

· **Vlampunt:** 97 °C· **Ontvlambaarheid (vast, gas):** Niet bruikbaar.· **Ontledingstemperatuur:** Niet bepaald.· **Zelfontbrandingstemperatuur:** Het produkt ontbrandt niet uit zichzelf.· **Ontploffingseigenschappen:** Het produkt is niet ontploffingsgevaarlijk.· **Ontploffingsgrenzen:**

· <b>Onderste:</b>	Niet bepaald.
· <b>Bovenste:</b>	Niet bepaald.

· **Dampspanning:** Niet bepaald.

· <b>Dichtheid bij 20 °C:</b>	1,235 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingssnelheid</b>	Niet bepaald.

· **Oplosbaarheid in/mengbaarheid met**· **Water:** Volledig mengbaar.· **Verdelingscoëfficiënt: n-octanol/water:** Niet bepaald.· **Viscositeit**

· <b>Dynamisch:</b>	Niet bepaald.
· <b>Kinematisch:</b>	Niet bepaald.

· **Oplosmiddelgehalte:**· **VOC (EG)** 0,00 %· **Gehalte aan vaste bestanddelen:** 15,0 %· **9.2 Overige informatie** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

### RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

### RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

#### · Indelingsrelevantie LD/LC50-waarden:

##### 111-40-0 1,5-diamino-3-azapentaan

Oraal	LD50	1.080 mg/kg (rat)
Dermaal	LD50	1.090 mg/kg (rabbiet)

##### 123-31-9 hydrochinon

Oraal	LD50	320 mg/kg (rat)
-------	------	-----------------

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt ernstige brandwonden en oogletsel.
- **Ernstig oogletsel/oogirritatie**  
Veroorzaakt ernstig oogletsel.
- **Sensibilisatie van de luchtwegen/de huid**  
Kan een allergische huidreactie veroorzaken.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen**  
Verdacht van het veroorzaken van genetische schade.
- **Kankerverwekkendheid**  
Verdacht van het veroorzaken van kanker.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Ecotoxische effecten:**
- **Opmerking:** Zeer giftig voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
Waterbezwaarlijkheid (NL): A(1) zeer vergiftig voor in water levende organismen kan in aquatische milieu op lange termijn schadelijke effecten veroorzaken

(Vervolg op blz. 7)

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(Vervolg van blz. 6)

- Gevaar voor water klasse 3 (D) (Zelfclassificatie): gevaar voor water groot  
 Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.  
 Gevaar voor drinkwater zelfs bij het uitlopen van zeer geringe hoeveelheden in de ondergrond.  
 In oppervlaktewater ook giftig voor vissen en plankton.  
 zeer giftig voor in het water levende organismen
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
  - **PBT:** Niet bruikbaar.
  - **zPzB:** Niet bruikbaar.
  - **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

## RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA** UN2735
- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
- **ADR** 2735 AMINEN, VLOEIBAAR, BIJTEND, N.E.G. (DIETHYLEENTRIAMINE), MILIEUGEVAARLIJK
- **IMDG** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), MARINE POLLUTANT
- **IATA** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
- **14.3 Transportgevarenklasse(n)**
- **ADR, IMDG**
- 
- **klasse** 8 Bijtende stoffen
- **Etiket** 8
- **IATA**
- 
- **Class** 8 Bijtende stoffen
- **Label** 8
- **14.4 Verpakkingsgroep:**
- **ADR, IMDG, IATA** II
- **14.5 Milieugevaren:** Produkt bevat milieugevaarlijke stoffen: hydrochinon

(Vervolg op blz. 8)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 06.04.2020

Herziening van: 06.04.2020

**Handelsnaam: ILFORD MutiGrade Paper Developer**

(Vervolg van blz. 7)

· <b>Marine pollutant:</b>	Symbool (vis en boom)
· <b>Bijzondere kenmerking (ADR):</b>	Symbool (vis en boom)
· <b>14.6 Bijzondere voorzorgen voor de gebruiker</b>	Waarschuwing: Bijtende stoffen
· <b>Gevaarsidentificatienummer (Kemler-getal):</b>	80
· <b>EMS-nummer:</b>	F-A,S-B
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b>	Niet bruikbaar.
· <b>Transport/verdere gegevens:</b>	
-----	
· <b>ADR</b>	1L
· <b>Beperkte hoeveelheden (LQ)</b>	Code: E2
· <b>Uitgezonderde hoeveelheden (EQ)</b>	Grootste netto hoeveelheid per binnenverpakking: 30 ml
	Grootste netto hoeveelheid per buitenverpakking: 500 ml
· <b>Vervoerscategorie</b>	2
· <b>Tunnelbeperkingscode</b>	E
-----	
· <b>IMDG</b>	1L
· <b>Limited quantities (LQ)</b>	Code: E2
· <b>Excepted quantities (EQ)</b>	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
· <b>VN "Model Regulation":</b>	UN 2735 AMINEN, VLOEIBAAR, BIJTEND, N.E.G. (DIETHYLEENTRIAMINE), 8, II, MILIEUGEVAARLIJK

### RUBRIEK 15: Regelgeving

#### · 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel

##### · SZW-lijst van kankerverwekkende stoffen

geen der bestanddelen staat op de lijst.

##### · SZW-lijst van mutagene stoffen

geen der bestanddelen staat op de lijst.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid

geen der bestanddelen staat op de lijst.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling

geen der bestanddelen staat op de lijst.

##### · NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding

geen der bestanddelen staat op de lijst.

##### · Lijst Zeer Zorgwekkende Stoffen (ZZS)

geen der bestanddelen staat op de lijst.

##### · Lijst van Potentieel Zeer Zorgwekkende Stoffen

geen der bestanddelen staat op de lijst.

##### · Richtlijn 2012/18/EU

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

(Vervolg op blz. 9)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 06.04.2020

Herziening van: 06.04.2020

**Handelsnaam: ILFORD MutiGrade Paper Developer**

(Vervolg van blz. 8)

- **Seveso-categorie E1** Gevaar voor het aquatisch milieu
- **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 100 t**
- **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 200 t**
- **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3
- **Nationale voorschriften:**
- **Gevaarklasse v. water:**  
Waterbezwaarlijkheid (NL): A(1) zeer vergiftig voor in water levende organismen kan in aquatische milieu op lange termijn schadelijke effecten veroorzaken
- **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

### RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van producteigenschappen en vestigen geen contractuele rechtsbetrekking.

- **Relevante zinnen**  
H302 Schadelijk bij inslikken.  
H312 Schadelijk bij contact met de huid.  
H314 Veroorzaakt ernstige brandwonden en oogletsel.  
H317 Kan een allergische huidreactie veroorzaken.  
H318 Veroorzaakt ernstig oogletsel.  
H319 Veroorzaakt ernstige oogirritatie.  
H341 Verdacht van het veroorzaken van genetische schade.  
H351 Verdacht van het veroorzaken van kanker.  
H400 Zeer giftig voor in het water levende organismen.
- **Afkortingen en acroniemen:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
Acute Tox. 4: Acute toxiciteit - oraal – Categorie 4  
Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B  
Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1  
Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2  
Skin Sens. 1: Sensibilisatie van de huid – Categorie 1  
Muta. 2: Mutageniteit in geslachtscellen – Categorie 2  
Carc. 2: Kankerverwekkendheid – Categorie 2  
Aquatic Acute 1: Gevaar voor het aquatisch milieu - acuut aquatisch gevaar – Categorie 1

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Revision: 06.04.2020

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

- **1.1 Product identifier**
- **Trade name:** ILFORD MutiGrade Paper Developer
- **Article number:** 83050-05, 83050-50
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Muta. 2            H341 Suspected of causing genetic defects.  
Carc. 2            H351 Suspected of causing cancer.



GHS05 corrosion

Skin Corr. 1B    H314 Causes severe skin burns and eye damage.  
Eye Dam. 1      H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Skin Sens. 1     H317 May cause an allergic skin reaction.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

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# Safety data sheet

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Trade name: **ILFORD MuliGrade Paper Developer**

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· **Hazard pictograms**

GHS05   GHS07   GHS08   GHS09

· **Signal word** *Danger*· **Hazard-determining components of labelling:**2,2'-iminodiethylamine  
hydroquinone· **Hazard statements**

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

· **Precautionary statements**P303+P361+P353 **IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water [or shower].P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.P310 Immediately call a **POISON CENTER/doctor**.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

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

· **2.3 Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**· **Description:** Mixture of substances listed below with nonhazardous additions.· **Dangerous components:**

CAS: 584-08-7 EINECS: 209-529-3	potassium carbonate ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	>2.5-≤10%
CAS: 111-40-0 EINECS: 203-865-4	2,2'-iminodiethylamine ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	>2.5-≤10%
CAS: 123-31-9 EINECS: 204-617-8	hydroquinone ⚠ Muta. 2, H341; Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	>2.5-≤10%
CAS: 13047-13-7 EINECS: 235-920-3	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one ⚠ Acute Tox. 4, H302	≤2.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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# Safety data sheet

## according to 1907/2006/EC, Article 31

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### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

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· 7.3 **Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.· 8.1 **Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****111-40-0 2,2'-iminodiethylamine**

WEL	Long-term value: 4.3 mg/m <sup>3</sup> , 1 ppm
Sk	

**123-31-9 hydroquinone**

WEL	Long-term value: 0.5 mg/m <sup>3</sup>
-----	--

· **Additional information:** The lists valid during the making were used as basis.· 8.2 **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

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Trade name: **ILFORD MuliGrade Paper Developer**

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### SECTION 9: Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Appearance:

Form:	Liquid
Colour:	Clear
· Odour:	Characteristic
· Odour threshold:	Not determined.

· pH-value at 20 °C: 10

##### · Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	>100 °C

· Flash point: 97 °C

· Flammability (solid, gas): Not applicable.

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Product does not present an explosion hazard.

##### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

· Density at 20 °C:	1.235 g/cm <sup>3</sup>
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with water: Fully miscible.

· Partition coefficient: n-octanol/water: Not determined.

##### · Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

##### · Solvent content:

VOC (EC) 0.00 %

Solids content: 15.0 %

· 9.2 Other information: No further relevant information available.

### SECTION 10: Stability and reactivity

· 10.1 Reactivity: No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions: No dangerous reactions known.

· 10.4 Conditions to avoid: No further relevant information available.

· 10.5 Incompatible materials: No further relevant information available.

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Trade name: **ILFORD MutiGrade Paper Developer**

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· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

### 111-40-0 2,2'-iminodiethylamine

Oral	LD50	1,080 mg/kg (rat)
Dermal	LD50	1,090 mg/kg (rabbit)

### 123-31-9 hydroquinone

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**  
Suspected of causing genetic defects.
- **Carcinogenicity**  
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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**Safety data sheet**  
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· **12.6 Other adverse effects** No further relevant information available.**SECTION 13: Disposal considerations**· **13.1 Waste treatment methods**· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**· **Recommendation:** Disposal must be made according to official regulations.· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.**SECTION 14: Transport information**· **14.1 UN-Number**· **ADR, IMDG, IATA**

UN2735

· **14.2 UN proper shipping name**· **ADR**2735 AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), ENVIRONMENTALLY  
HAZARDOUS· **IMDG**AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE), MARINE POLLUTANT· **IATA**AMINES, LIQUID, CORROSIVE, N.O.S.  
(DIETHYLENETRIAMINE)· **14.3 Transport hazard class(es)**· **ADR, IMDG**· **Class**

8 Corrosive substances.

· **Label**

8

· **IATA**· **Class**

8 Corrosive substances.

· **Label**

8

· **14.4 Packing group**· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**Product contains environmentally hazardous substances:  
hydroquinone· **Marine pollutant:**

Symbol (fish and tree)

· **Special marking (ADR):**

Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Corrosive substances.

· **Hazard identification number (Kemler code):**

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**Safety data sheet**  
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· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E1** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- 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.

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Revision: 06.04.2020

**Trade name: ILFORD MuliGrade Paper Developer**

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**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

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

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Acute Tox. 4: Acute toxicity - oral – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Muta. 2: Germ cell mutagenicity – Category 2*

*Carc. 2: Carcinogenicity – Category 2*

*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*

GB



# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 06.04.2020

Révision: 06.04.2020

### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** ILFORD MuliGrade Paper Developer
- **Code du produit:** 83050-05, 83050-50
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS08 danger pour la santé

Muta. 2            H341 Susceptible d'induire des anomalies génétiques.  
Carc. 2            H351 Susceptible de provoquer le cancer.



GHS05 corrosion

Skin Corr. 1B    H314 Provoque des brûlures de la peau et de graves lésions des yeux.  
Eye Dam. 1     H318 Provoque de graves lésions des yeux.



GHS09 environnement

Aquatic Acute 1 H400 Très toxique pour les organismes aquatiques.



GHS07

Skin Sens. 1     H317 Peut provoquer une allergie cutanée.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.

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## selon 1907/2006/CE, Article 31

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**Pictogrammes de danger**


GHS05    GHS07    GHS08    GHS09

**Mention d'avertissement Danger**
**Composants dangereux déterminants pour l'étiquetage:**

3-azapentane-1,5-diamine

1,4-dihydroxybenzène

**Mentions de danger**

H314 Provoque des brûlures de la peau et de graves lésions des yeux.

H317 Peut provoquer une allergie cutanée.

H341 Susceptible d'induire des anomalies génétiques.

H351 Susceptible de provoquer le cancer.

H400 Très toxique pour les organismes aquatiques.

**Conseils de prudence**

P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].

P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.

P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P321 Traitement spécifique (voir sur cette étiquette).

P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.

P405 Garder sous clé.

P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

**2.3 Autres dangers**
**Résultats des évaluations PBT et vPvB**

 • **PBT:** Non applicable.

 • **vPvB:** Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

**3.2 Caractérisation chimique: Mélanges**

 • **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

**Composants dangereux:**

CAS: 584-08-7 EINECS: 209-529-3	carbonate de potassium ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	>2,5-≤10%
CAS: 111-40-0 EINECS: 203-865-4	3-azapentane-1,5-diamine ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	>2,5-≤10%
CAS: 123-31-9 EINECS: 204-617-8	1,4-dihydroxybenzène ⚠ Muta. 2, H341; Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	>2,5-≤10%
CAS: 13047-13-7 EINECS: 235-920-3	4-(hydroxyméthyl)-4-méthyl-1-phénylpyrazolidine-3-one ⚠ Acute Tox. 4, H302	≤2,5%

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· **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

### RUBRIQUE 4: Premiers secours

#### · 4.1 Description des premiers secours

##### · Après inhalation:

Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.

En cas d'inconscience, coucher et transporter la personne en position latérale stable.

##### · Après contact avec la peau: Laver immédiatement à l'eau et au savon et bien rincer.

##### · Après contact avec les yeux:

Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.

##### · Après ingestion: Si les troubles persistent, consulter un médecin.

#### · 4.2 Principaux symptômes et effets, aigus et différés Pas d'autres informations importantes disponibles.

#### · 4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires

Pas d'autres informations importantes disponibles.

### RUBRIQUE 5: Mesures de lutte contre l'incendie

#### · 5.1 Moyens d'extinction

##### · Moyens d'extinction:

CO<sub>2</sub>, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.

#### · 5.2 Dangers particuliers résultant de la substance ou du mélange

Pas d'autres informations importantes disponibles.

#### · 5.3 Conseils aux pompiers

#### · Equipement spécial de sécurité: Aucune mesure particulière n'est requise.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

#### · 6.1 Précautions individuelles, équipement de protection et procédures d'urgence Pas nécessaire.

#### · 6.2 Précautions pour la protection de l'environnement:

En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.

Diluer avec beaucoup d'eau.

Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.

#### · 6.3 Méthodes et matériel de confinement et de nettoyage:

Recueillir les liquides à l'aide d'un produit absorbant (sable, kieseluhr, neutralisant d'acide, liant universel, sciure).

Evacuer les matériaux contaminés en tant que déchets conformément au point 13.

Assurer une aération suffisante.

#### · 6.4 Référence à d'autres rubriques

Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.

Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.

Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

#### · 7.1 Précautions à prendre pour une manipulation sans danger

Veiller à une bonne ventilation/aspiration du poste de travail.

Eviter la formation d'aérosols.

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- **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Néant.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**  
Sans autre indication, voir point 7.

#### · 8.1 Paramètres de contrôle

- **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

##### **111-40-0 3-azapentane-1,5-diamine**

<b>VLEP</b>	Valeur à long terme: 4 mg/m <sup>3</sup> , 1 ppm
<b>AC</b>	

##### **123-31-9 1,4-dihydroxybenzène**

<b>VLEP</b>	Valeur à long terme: 2 mg/m <sup>3</sup>
<b>C2, M2</b>	

#### · **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

#### · 8.2 Contrôles de l'exposition

##### · **Équipement de protection individuel:**

##### · **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Éviter tout contact avec la peau.

Éviter tout contact avec les yeux et avec la peau.

##### · **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

##### · **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

##### · **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

##### · **Temps de pénétration du matériau des gants**

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

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· **Protection des yeux:**

Lunettes de protection hermétiques

### RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**· **Indications générales**· **Aspect:**

· <b>Forme:</b>	Liquide
· <b>Couleur:</b>	Transparent
· <b>Odeur:</b>	Caractéristique
· <b>Seuil olfactif:</b>	Non déterminé.

· **valeur du pH à 20 °C:** 10· **Changement d'état**

· <b>Point de fusion/point de congélation:</b>	Non déterminé.
· <b>Point initial d'ébullition et intervalle d'ébullition:</b>	>100 °C

· **Point d'éclair** 97 °C· **Inflammabilité (solide, gaz):** Non applicable.· **Température de décomposition:** Non déterminé.· **Température d'auto-inflammabilité:** Le produit ne s'enflamme pas spontanément.· **Propriétés explosives:** Le produit n'est pas explosif.· **Limites d'explosion:**

· <b>Inférieure:</b>	Non déterminé.
· <b>Supérieure:</b>	Non déterminé.

· **Pression de vapeur:** Non déterminé.

· <b>Densité à 20 °C:</b>	1,235 g/cm <sup>3</sup>
· <b>Densité relative</b>	Non déterminé.
· <b>Densité de vapeur:</b>	Non déterminé.
· <b>Taux d'évaporation:</b>	Non déterminé.

· **Solubilité dans/miscibilité avec l'eau:** Entièrement miscible· **Coefficient de partage: n-octanol/eau:** Non déterminé.· **Viscosité:**

· <b>Dynamique:</b>	Non déterminé.
· <b>Cinématique:</b>	Non déterminé.

· **Teneur en solvants:**· **VOC (CE)** 0,00 %· **Teneur en substances solides:** 15,0 %· **9.2 Autres informations** Pas d'autres informations importantes disponibles.

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### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

· **Valeurs LD/LC50 déterminantes pour la classification:**

#### 111-40-0 3-azapentane-1,5-diamine

Oral	LD50	1.080 mg/kg (rat)
Dermique	LD50	1.090 mg/kg (lapin)

#### 123-31-9 1,4-dihydroxybenzène

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**  
Provoque des brûlures de la peau et de graves lésions des yeux.
- **Lésions oculaires graves/irritation oculaire**  
Provoque de graves lésions des yeux.
- **Sensibilisation respiratoire ou cutanée**  
Peut provoquer une allergie cutanée.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**  
Susceptible d'induire des anomalies génétiques.
- **Cancérogénicité**  
Susceptible de provoquer le cancer.
- **Toxicité pour la reproduction**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**  
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:** Très toxique chez les poissons.

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· **Autres indications écologiques:**

· **Indications générales:**

Catégorie de pollution des eaux 3 (D) (Classification propre): très polluant  
 Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.  
 Danger pour l'eau potable dès fuite d'une quantité minime dans le sous-sol.  
 Dans les eaux, également toxique pour les poissons et le plancton.

Très toxique pour organismes aquatiques.

· **12.5 Résultats des évaluations PBT et VPVB**

· **PBT:** Non applicable.

· **vPvB:** Non applicable.

· **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

· **13.1 Méthodes de traitement des déchets**

· **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.

· **Emballages non nettoyés:**

· **Recommandation:** Evacuation conformément aux prescriptions légales.

· **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

### RUBRIQUE 14: Informations relatives au transport

· **14.1 Numéro ONU**

· **ADR, IMDG, IATA**

UN2735

· **14.2 Désignation officielle de transport de l'ONU**

· **ADR**

2735 AMINES LIQUIDES CORROSIVES, N.S.A.  
 (DIÉTHYLÈNETRIAMINE), DANGEREUX POUR  
 L'ENVIRONNEMENT

· **IMDG**

AMINES, LIQUID, CORROSIVE, N.O.S.  
 (DIETHYLENETRIAMINE), MARINE POLLUTANT

· **IATA**

AMINES, LIQUID, CORROSIVE, N.O.S.  
 (DIETHYLENETRIAMINE)

· **14.3 Classe(s) de danger pour le transport**

· **ADR, IMDG**



· **Classe**

8 Matières corrosives.

· **Étiquette**

8

· **IATA**



· **Class**

8 Matières corrosives.

· **Label**

8

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· 14.4 Groupe d'emballage · ADR, IMDG, IATA	II
· 14.5 Dangers pour l'environnement: · Marine Pollutant: · Marquage spécial (ADR):	Le produit contient matières dangereuses pour l'environnement : 1,4-dihydroxybenzène Signe conventionnel (poisson et arbre) Signe conventionnel (poisson et arbre)
· 14.6 Précautions particulières à prendre par l'utilisateur · Numéro d'identification du danger (Indice Kemler): · No EMS: · Segregation groups · Stowage Category · Segregation Code	Attention: Matières corrosives. 80 F-A,S-B Alkalis A SG35 Stow "separated from" SGG1-acids
· 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC	Non applicable.
· Indications complémentaires de transport:	
· ADR · Quantités limitées (LQ) · Quantités exceptées (EQ)	1L Code: E2 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 500 ml
· Catégorie de transport · Code de restriction en tunnels	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· "Règlement type" de l'ONU:	UN 2735 AMINES LIQUIDES CORROSIVES, N.S.A. (DIÉTHYLÈNETRIAMINE), 8, II, DANGEREUX POUR L'ENVIRONNEMENT

### RUBRIQUE 15: Informations relatives à la réglementation

- 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement
  - Directive 2012/18/UE
  - Substances dangereuses désignées - ANNEXE I Aucun des composants n'est compris.
  - Catégorie SEVESO E1 Danger pour l'environnement aquatique
  - Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 100 t
  - Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 200 t
  - RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3
- 15.2 Évaluation de la sécurité chimique: Une évaluation de la sécurité chimique n'a pas été réalisée.

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### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

· **Phrases importantes**

H302 Nocif en cas d'ingestion.

H312 Nocif par contact cutané.

H314 Provoque des brûlures de la peau et de graves lésions des yeux.

H317 Peut provoquer une allergie cutanée.

H318 Provoque de graves lésions des yeux.

H319 Provoque une sévère irritation des yeux.

H341 Susceptible d'induire des anomalies génétiques.

H351 Susceptible de provoquer le cancer.

H400 Très toxique pour les organismes aquatiques.

· **Acronymes et abréviations:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicité aiguë - voie orale – Catégorie 4

Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B

Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1

Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

Muta. 2: Mutagénicité sur les cellules germinales – Catégorie 2

Carc. 2: Cancérogénicité – Catégorie 2

Aquatic Acute 1: Dangers pour le milieu aquatique- toxicité aiguë pour le milieu aquatique – Catégorie 1

# Sicherheitsdatenblatt gemäß 1907/2006/EG, Artikel 31

Druckdatum: 06.04.2020

überarbeitet am: 06.04.2020

## ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** ***ILFORD MutiGrade Paper Developer***
- **Artikelnummer:** 83050-05, 83050-50
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org  
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS08 Gesundheitsgefahr

Muta. 2            H341 Kann vermutlich genetische Defekte verursachen.

Carc. 2            H351 Kann vermutlich Krebs erzeugen.



GHS05 Ätzwirkung

Skin Corr. 1B    H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

Eye Dam. 1      H318 Verursacht schwere Augenschäden.



GHS09 Umwelt

Aquatic Acute 1 H400 Sehr giftig für Wasserorganismen.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 06.04.2020

überarbeitet am: 06.04.2020

Handelsname: **ILFORD MultiGrade Paper Developer**

(Fortsetzung von Seite 1)



GHS07

Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

### 2.2 Kennzeichnungselemente

#### Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### Gefahrenpiktogramme



GHS05

GHS07

GHS08

GHS09

#### Signalwort Gefahr

#### Gefahrbestimmende Komponenten zur Etikettierung:

3-Azapentan-1,5-diamin

1,4-Dihydroxybenzol

#### Gefahrenhinweise

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H341 Kann vermutlich genetische Defekte verursachen.

H351 Kann vermutlich Krebs erzeugen.

H400 Sehr giftig für Wasserorganismen.

#### Sicherheitshinweise

P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen [oder duschen].

P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.

P310 Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.

P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

P362+P364 Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.

P405 Unter Verschluss aufbewahren.

P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

#### 2.3 Sonstige Gefahren

#### Ergebnisse der PBT- und vPvB-Beurteilung

• **PBT:** Nicht anwendbar.

• **vPvB:** Nicht anwendbar.

## ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

### 3.2 Chemische Charakterisierung: Gemische

• **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

#### Gefährliche Inhaltsstoffe:

CAS: 584-08-7	Pottasche	>2,5-≤10%
EINECS: 209-529-3	⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	
CAS: 111-40-0	3-Azapentan-1,5-diamin	>2,5-≤10%
EINECS: 203-865-4	⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	

(Fortsetzung auf Seite 3)

# Sicherheitsdatenblatt








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CAS: 123-31-9 EINECS: 204-617-8	1,4-Dihydroxybenzol  Muta. 2, H341;  Carc. 2, H351;  Eye Dam. 1, H318;  Aquatic Acute 1, H400;  Acute Tox. 4, H302;  Skin Sens. 1, H317	>2,5-≤10%
CAS: 13047-13-7 EINECS: 235-920-3	4-(Hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-on  Acute Tox. 4, H302	≤2,5%

· **Zusätzliche Hinweise:** Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**

· **Nach Einatmen:**

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

· **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.

· **Nach Augenkontakt:**

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.

· **Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.

· **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**

Keine weiteren relevanten Informationen verfügbar.

· **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**

Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

· **5.1 Löschmittel**

· **Geeignete Löschmittel:**

CO<sub>2</sub>, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.

· **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**

Keine weiteren relevanten Informationen verfügbar.

· **5.3 Hinweise für die Brandbekämpfung**

· **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

· **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**

Nicht erforderlich.

· **6.2 Umweltschutzmaßnahmen:**

Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.

Mit viel Wasser verdünnen.

Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.

· **6.3 Methoden und Material für Rückhaltung und Reinigung:**

Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.

Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.

Für ausreichende Lüftung sorgen.

· **6.4 Verweis auf andere Abschnitte**

Informationen zur sicheren Handhabung siehe Abschnitt 7.

Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.

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Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**  
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.  
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Keine.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

#### · 8.1 Zu überwachende Parameter

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

<b>111-40-0 3-Azapentan-1,5-diamin</b>	
MAK	vgl. Abschn. IV
<b>123-31-9 1,4-Dihydroxybenzol</b>	
MAK	als Dampf und Aerosol

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

#### · 8.2 Begrenzung und Überwachung der Exposition

##### · **Persönliche Schutzausrüstung:**

##### · **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Berührung mit der Haut vermeiden.

Berührung mit den Augen und der Haut vermeiden.

##### · **Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

##### · **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

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**· Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

**· Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

**· Augenschutz:**


Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

**· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
**· Allgemeine Angaben**
**· Aussehen:**

**Form:** Flüssigkeit

**Farbe:** Klar

**· Geruch:** Charakteristisch

**· Geruchsschwelle:** Nicht bestimmt.

**· pH-Wert bei 20 °C:** 10

**· Zustandsänderung**

**Schmelzpunkt/Gefrierpunkt:** Nicht bestimmt.

**Siedebeginn und Siedebereich:** >100 °C

**· Flammpunkt:** 97 °C

**· Entzündbarkeit (fest, gasförmig):** Nicht anwendbar.

**· Zersetzungstemperatur:** Nicht bestimmt.

**· Selbstentzündungstemperatur:** Das Produkt ist nicht selbstentzündlich.

**· Explosive Eigenschaften:** Das Produkt ist nicht explosionsgefährlich.

**· Explosionsgrenzen:**

**Untere:** Nicht bestimmt.

**Obere:** Nicht bestimmt.

**· Dampfdruck:** Nicht bestimmt.

**· Dichte bei 20 °C:** 1,235 g/cm<sup>3</sup>

**· Relative Dichte** Nicht bestimmt.

**· Dampfdichte** Nicht bestimmt.

**· Verdampfungsgeschwindigkeit** Nicht bestimmt.

**· Löslichkeit in / Mischbarkeit mit**

**Wasser:** Vollständig mischbar.

**· Verteilungskoeffizient: n-Octanol/Wasser:** Nicht bestimmt.

**· Viskosität:**

**Dynamisch:** Nicht bestimmt.

**Kinematisch:** Nicht bestimmt.

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· <b>Lösemittelgehalt:</b> <b>VOC (EU)</b>	0,00 %
· <b>Festkörpergehalt:</b>	15,0 %
· <b>9.2 Sonstige Angaben</b>	Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

**Einstufungsrelevante LD/LC50-Werte:**
**111-40-0 3-Azapentan-1,5-diamin**

Oral	LD50	1.080 mg/kg (rat)
Dermal	LD50	1.090 mg/kg (rabbit)

**123-31-9 1,4-Dihydroxybenzol**

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Schwere Augenschädigung/-reizung**  
Verursacht schwere Augenschäden.
- **Sensibilisierung der Atemwege/Haut**  
Kann allergische Hautreaktionen verursachen.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität**  
Kann vermutlich genetische Defekte verursachen.
- **Karzinogenität**  
Kann vermutlich Krebs erzeugen.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

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### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Ökotoxische Wirkungen:**
- **Bemerkung:** Sehr giftig für Fische.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
 Wassergefährdungsklasse 3 (Selbsteinstufung): stark wassergefährdend  
 Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.  
 Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.  
 In Gewässern auch giftig für Fische und Plankton.  
 sehr giftig für Wasserorganismen
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

- **14.1 UN-Nummer**
- **ADR, IMDG, IATA** UN2735
- **14.2 Ordnungsgemäße UN-Versandbezeichnung**
- **ADR** 2735 AMINE, FLÜSSIG, ÄTZEND, N.A.G. (DIETHYLENTRIAMIN), UMWELTGEFÄHRDEND
- **IMDG** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), MARINE POLLUTANT
- **IATA** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
- **14.3 Transportgefahrenklassen**
- **ADR, IMDG**
- 
- **Klasse** 8 Ätzende Stoffe

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· <b>Gefahrzettel</b>	8
· <b>IATA</b>	
	
· <b>Class</b>	8 Ätzende Stoffe
· <b>Label</b>	8
· <b>14.4 Verpackungsgruppe</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Umweltgefahren:</b>	Das Produkt enthält umweltgefährdende Stoffe: 1,4-Dihydroxybenzol
· <b>Marine pollutant:</b>	Symbol (Fisch und Baum)
· <b>Besondere Kennzeichnung (ADR):</b>	Symbol (Fisch und Baum)
· <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b>	Achtung: Ätzende Stoffe
· <b>Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl):</b>	80
· <b>EMS-Nummer:</b>	F-A,S-B
· <b>Segregation groups</b>	Alkalis
· <b>Stowage Category</b>	A
· <b>Segregation Code</b>	SG35 Stow "separated from" SGG1-acids
· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code</b>	Nicht anwendbar.
· <b>Transport/weitere Angaben:</b>	
· <b>ADR</b>	
· <b>Begrenzte Menge (LQ)</b>	1L
· <b>Freigestellte Mengen (EQ)</b>	Code: E2 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 500 ml
· <b>Beförderungskategorie</b>	2
· <b>Tunnelbeschränkungscode</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMINE, FLÜSSIG, ÄTZEND, N.A.G. (DIETHYLENTRIAMIN), 8, II, UMWELTGEFÄHRDEND

### ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- **Seveso-Kategorie E1** Gewässergefährdend

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- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 100 t**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 200 t**
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII Beschränkungsbedingungen: 3**

· **Nationale Vorschriften:**

· **Technische Anleitung Luft:**

Klasse	Anteil in %
I	5,0

- **Wassergefährdungsklasse: WGK 3 (Selbsteinstufung): stark wassergefährdend.**
- **15.2 Stoffsicherheitsbeurteilung: Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.**

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

· **Relevante Sätze**

- H302 Gesundheitsschädlich bei Verschlucken.
- H312 Gesundheitsschädlich bei Hautkontakt.
- H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- H317 Kann allergische Hautreaktionen verursachen.
- H318 Verursacht schwere Augenschäden.
- H319 Verursacht schwere Augenreizung.
- H341 Kann vermutlich genetische Defekte verursachen.
- H351 Kann vermutlich Krebs erzeugen.
- H400 Sehr giftig für Wasserorganismen.

· **Abkürzungen und Akronyme:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Akute Toxizität - oral – Kategorie 4
- Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B
- Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1
- Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2
- Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1
- Muta. 2: Keimzellmutagenität – Kategorie 2
- Carc. 2: Karzinogenität – Kategorie 2
- Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1

**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 06.04.2020

Revisione: 06.04.2020

### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** ILFORD MutiGrade Paper Developer
- **Articolo numero:** 83050-05, 83050-50
- **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**  
Non sono disponibili altre informazioni.
- **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio
- **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**
- **Produttore/fornitore:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Societa Italiana Chimici**  
Via Rio Nell Ellba 140  
00138 Rome, Italy  
Tel: 39 06 8800211  
Fax: 39 30 06 8815313  
Web: [www.sichim.com](http://www.sichim.com)
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS08 pericolo per la salute

Muta. 2            H341 Sospettato di provocare alterazioni genetiche.  
Carc. 2            H351 Sospettato di provocare il cancro.



GHS05 corrosione

Skin Corr. 1B    H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.  
Eye Dam. 1     H318 Provoca gravi lesioni oculari.



GHS09 ambiente

Aquatic Acute 1 H400 Molto tossico per gli organismi acquatici.



GHS07

Skin Sens. 1    H317 Può provocare una reazione allergica cutanea.

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- **2.2 Elementi dell'etichetta**
- **Etichettatura secondo il regolamento (CE) n. 1272/2008**  
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.
- **Pittogrammi di pericolo**



GHS05   GHS07   GHS08   GHS09

- **Avvertenza Pericolo**
- **Componenti pericolosi che ne determinano l'etichettatura:**  
3-azapentano-1,5-diamina  
1,4-idrossibenzene
- **Indicazioni di pericolo**  
H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.  
H317 Può provocare una reazione allergica cutanea.  
H341 Sospettato di provocare alterazioni genetiche.  
H351 Sospettato di provocare il cancro.  
H400 Molto tossico per gli organismi acquatici.
- **Consigli di prudenza**  
P303+P361+P353 **IN CASO DI CONTATTO CON LA PELLE (o con i capelli):** togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].  
P305+P351+P338 **IN CASO DI CONTATTO CON GLI OCCHI:** sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.  
P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.  
P321 Trattamento specifico (vedere su questa etichetta).  
P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.  
P405 Conservare sotto chiave.  
P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.
- **2.3 Altri pericoli**
- **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

### SEZIONE 3: Composizione/informazioni sugli ingredienti

- **3.2 Caratteristiche chimiche: Miscela**
- **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

· <b>Sostanze pericolose:</b>		
CAS: 584-08-7 EINECS: 209-529-3	carbonato di potassio ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	>2,5-≤10%
CAS: 111-40-0 EINECS: 203-865-4	3-azapentano-1,5-diamina ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	>2,5-≤10%
CAS: 123-31-9 EINECS: 204-617-8	1,4-idrossibenzene ⚠ Muta. 2, H341; Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	>2,5-≤10%
CAS: 13047-13-7 EINECS: 235-920-3	1-fenil-4-(idrossimetil)-4-metilpirazolidin-3-one ⚠ Acute Tox. 4, H302	≤2,5%

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· **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

#### **SEZIONE 4: Misure di primo soccorso**

· **4.1 Descrizione delle misure di primo soccorso**

· **Inalazione:**

Portare il soggetto in zona molto ben areata e per sicurezza consultare un medico.

Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.

· **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.

· **Contatto con gli occhi:**

Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.

· **Ingestione:** Se il dolore persiste consultare il medico.

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.

· **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**

Non sono disponibili altre informazioni.

#### **SEZIONE 5: Misure antincendio**

· **5.1 Mezzi di estinzione**

· **Mezzi di estinzione idonei:**

CO<sub>2</sub>, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.

· **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.

· **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**

· **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

#### **SEZIONE 6: Misure in caso di rilascio accidentale**

· **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza** Non necessario.

· **6.2 Precauzioni ambientali:**

In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.

Diluire abbondantemente con acqua.

Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.

· **6.3 Metodi e materiali per il contenimento e per la bonifica:**

Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).

Smaltimento del materiale contaminato conformemente al punto 13.

Provvedere ad una sufficiente areazione.

· **6.4 Riferimento ad altre sezioni**

Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.

Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.

Per informazioni relative allo smaltimento vedere Capitolo 13.

#### **SEZIONE 7: Manipolazione e immagazzinamento**

· **7.1 Precauzioni per la manipolazione sicura**

Accurata ventilazione/aspirazione nei luoghi di lavoro.

Evitare la formazione di aerosol.

· **Indicazioni in caso di incendio ed esplosione:** Non sono richiesti provvedimenti particolari.

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- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Nessuno.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

### SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.

#### 8.1 Parametri di controllo

- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

##### 111-40-0 3-azapentano-1,5-diamina

TWA	Valore a lungo termine: 4,2 mg/m <sup>3</sup> , 1 ppm
Cute	

##### 123-31-9 1,4-idrossibenzene

TWA	Valore a lungo termine: 1 mg/m <sup>3</sup>
A3, sen	

- **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

#### 8.2 Controlli dell'esposizione

##### Mezzi protettivi individuali:

##### Norme generali protettive e di igiene del lavoro:

- Tenere lontano da cibo, bevande e foraggi.
- Togliere immediatamente gli abiti contaminati.
- Lavarsi le mani prima dell'intervallo o a lavoro terminato.
- Evitare il contatto con la pelle.
- Evitare il contatto con gli occhi e la pelle.

##### Maschera protettiva:

Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

##### Guanti protettivi:



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

##### Materiale dei guanti

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego

##### Tempo di permeazione del materiale dei guanti

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

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· **Occhiali protettivi:**

Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

#### · 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

##### · Indicazioni generali

##### · Aspetto:

**Forma:** Liquido

**Colore:** Chiaro

· **Odore:** Caratteristico

· **Soglia olfattiva:** Non definito.

· **valori di pH a 20 °C:** 10

##### · Cambiamento di stato

**Punto di fusione/punto di congelamento:** Non definito.

**Punto di ebollizione iniziale e intervallo di ebollizione:** >100 °C

· **Punto di infiammabilità:** 97 °C

· **Infiammabilità (solidi, gas):** Non applicabile.

· **Temperatura di decomposizione:** Non definito.

· **Temperatura di autoaccensione:** Prodotto non autoinfiammabile.

· **Proprietà esplosive:** Prodotto non esplosivo.

##### · Limiti di infiammabilità:

**Inferiore:** Non definito.

**Superiore:** Non definito.

· **Tensione di vapore:** Non definito.

· **Densità a 20 °C:** 1,235 g/cm<sup>3</sup>

· **Densità relativa** Non definito.

· **Densità di vapore:** Non definito.

· **Velocità di evaporazione** Non definito.

· **Solubilità in/Miscibilità con acqua:**

Completamente miscibile.

· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.

##### · Viscosità:

**Dinamica:** Non definito.

**Cinematica:** Non definito.

##### · Tenore del solvente:

**VOC (CE)** 0,00 %

**Contenuto solido:** 15,0 %

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· 9.2 Altre informazioni

Non sono disponibili altre informazioni.

### SEZIONE 10: Stabilità e reattività

- 10.1 Reattività Non sono disponibili altre informazioni.
- 10.2 Stabilità chimica
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- 10.3 Possibilità di reazioni pericolose Non sono note reazioni pericolose.
- 10.4 Condizioni da evitare Non sono disponibili altre informazioni.
- 10.5 Materiali incompatibili: Non sono disponibili altre informazioni.
- 10.6 Prodotti di decomposizione pericolosi: Non sono noti prodotti di decomposizione pericolosi.

### SEZIONE 11: Informazioni tossicologiche

- 11.1 Informazioni sugli effetti tossicologici
- **Tossicità acuta** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

· **Valori LD/LC50 rilevanti per la classificazione:**

111-40-0 3-azapentano-1,5-diamina		
Orale	LD50	1.080 mg/kg (rat)
Cutaneo	LD50	1.090 mg/kg (rabbit)
123-31-9 1,4-idrossibenzene		
Orale	LD50	320 mg/kg (rat)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**  
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Lesioni oculari gravi/irritazioni oculari gravi**  
Provoca gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**  
Può provocare una reazione allergica cutanea.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**  
Sospettato di provocare alterazioni genetiche.
- **Cancerogenicità**  
Sospettato di provocare il cancro.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

### SEZIONE 12: Informazioni ecologiche

- 12.1 Tossicità
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- 12.2 Persistenza e degradabilità Non sono disponibili altre informazioni.
- 12.3 Potenziale di bioaccumulo Non sono disponibili altre informazioni.
- 12.4 Mobilità nel suolo Non sono disponibili altre informazioni.

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- **Effetti tossici per l'ambiente:**
- **Osservazioni:** Molto tossico per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
Pericolosità per le acque classe 3 (D) (Autoclassificazione): molto pericoloso  
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.  
Tossico per pesci e plancton.  
Molto tossico per gli organismi acquatici
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

### SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.
- **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

### SEZIONE 14: Informazioni sul trasporto

- |  |  |
|--|--|
| · <b>14.1 Numero ONU</b>                               |  |
| · <b>ADR, IMDG, IATA</b>                               | UN2735   |
| · <b>14.2 Nome di spedizione dell'ONU</b>              |  |
| · <b>ADR</b>   | 2735 AMMINE LIQUIDE CORROSIVE, N.A.S. (DIETILENTRIAMMINA), PERICOLOSO PER L'AMBIENTE |
| · <b>IMDG</b>  | AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), MARINE POLLUTANT             |
| · <b>IATA</b>  | AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)                               |
| · <b>14.3 Classi di pericolo connesso al trasporto</b> |  |
| · <b>ADR, IMDG</b>                                     |  |
|  |   |
| · <b>Classe</b>  | 8 Materie corrosive  |
| · <b>Etichetta</b>                                     | 8  |
| · <b>IATA</b>  |  |
|  |   |
| · <b>Class</b>   | 8 Materie corrosive  |

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· <b>Label</b>	8
· <b>14.4 Gruppo di imballaggio</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Pericoli per l'ambiente:</b> · <b>Marine pollutant:</b> · <b>Marcatura speciali (ADR):</b>	Il prodotto contiene materie pericolose per l'ambiente: 1,4-idrossibenzene Simbolo (pesce e albero) Simbolo (pesce e albero)
· <b>14.6 Precauzioni speciali per gli utilizzatori</b> · <b>N° identificazione pericolo (Numero Kemler):</b> · <b>Numero EMS:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Segregation Code</b>	Attenzione: Materie corrosive 80 F-A,S-B Alkalis A SG35 Stow "separated from" SGG1-acids
· <b>14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC</b>	Non applicabile.
· <b>Trasporto/ulteriori indicazioni:</b>	
· <b>ADR</b> · <b>Quantità limitate (LQ)</b> · <b>Quantità esenti (EQ)</b>  · <b>Categoria di trasporto</b> · <b>Codice di restrizione in galleria</b>	1L Codice: E2 Quantità massima netta per imballaggio interno: 30 ml Quantità massima netta per imballaggio esterno: 500 ml 2 E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2735 AMMINE LIQUIDE CORROSIVE, N.A.S. (DIETILENTRIAMMINA), 8, II, PERICOLOSO PER L'AMBIENTE

### SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
- **Categoria Seveso E1** Pericoloso per l'ambiente acquatico
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 100 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t**
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

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### **SEZIONE 16: Altre informazioni**

*I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.*

· **Fraasi rilevanti**

- H302 Nocivo se ingerito.
- H312 Nocivo per contatto con la pelle.
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
- H317 Può provocare una reazione allergica cutanea.
- H318 Provoca gravi lesioni oculari.
- H319 Provoca grave irritazione oculare.
- H341 Sospettato di provocare alterazioni genetiche.
- H351 Sospettato di provocare il cancro.
- H400 Molto tossico per gli organismi acquatici.

· **Abbreviazioni e acronimi:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Tossicità acuta per via orale – Categoria 4
- Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B
- Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1
- Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2
- Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1
- Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2
- Carc. 2: Cancerogenicità – Categoria 2
- Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1

# 물질안전보건자료 GHS에 따라라따

인쇄일자: 2020.04.06

개정: 2020.04.06

## 1 화학제품과 회사에 관한 정보

### 제품제품개발자

· 제품명: ILFORD MutiGrade Paper Developer

· 상품번호: 83050-05, 83050-50

해당 해당 물질이나 혼합물에 대한 관련 위험도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

· 제품의 권고 용도와 사용 제한에 대한 제한사항 실화 학품

· 안전데이터표(Safety Data Sheet)내 공급업체 관련 정보

· 제조자/수입자/유통업체 정보

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: info@emsdiasum.com

www.emsdiasum.com

Samchang Commercial Co., Ltd.

Yeo Eui Do

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Daedok Science, Co. Ltd.

34141 E10 Korea Advanced Institute of Science

Guseong-Dong, Yuseong-gu, Daejeon,

Korea

Phone: 82 42 710 2091

Fax: 82 42 367 0005

Website: www.labsmro.com

· 추가적인 정보: 독성 시험 가능 department safety department

· 비상연락 전화번호:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

## 2 유해성·위험성

· 순물질 또는 혼합물에 대한 분류



건강에 위험

생식세포 변이원성 - 구분 2

H341 유전적인 결함을 일으킬 것으로 의심됨

발암성 - 구분 2

H351 암을 일으킬 것으로 의심됨



부식

피부 부식성/피부 자극성 - 구분 1 H314 피부에 심한 화상과 눈에 손상을 일으킴

심한 눈 손상성/눈 자극성 - 구분 1 H318 눈에 심한 손상을 일으킴



환경

수생환경 유해성 - 급성 1

H400 수생생물에 매우 유독함

(2 쪽에 계속)

# 물질안전보건자료

## GHS에 따라

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(1 쪽부터 계속)



피부 과민성 - 구분 1

H317 알레르기성 피부 반응을 일으킬 수 있음

- 라벨 표기 요소
- 라벨 표기 요소
- 그림 문자



GHS05



GHS07



GHS08



GHS09

- 신호어 위험

- 상표상에 명확히 위험성이 표시된 성분:

potassium carbonate  
2,2'-iminodiethylamine  
하이드로퀴논  
4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

유해 유해 위험 문구

피부에 심한 화상과 눈에 손상을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 것으로 의심됨  
수생생물에 매우 유독함

- 예방 조치 문구

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으십시오/샤워하십시오

· 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.  
즉시 독성물질센터/병원 연락 필요.  
(라벨 참조) 처치를 하십시오.  
오염된 의복은 벗고 다시 사용 전 세척하십시오.  
밀봉하여 저장하십시오.  
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

기타 기타 유해성

- PBT(잔류성, 생물농축성, 물질분해성) 및 vPvB(고 잔류성, 고 생물농축성, 물질분해성)에 해당하지 않음
- PBT(잔류성, 생물농축성, 물질분해성) 당사항 없음.
- vPvB(고 잔류성, 고 생물농축성, 물질분해성) 당사항 없음.

### 3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물

설명설명 설명한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

- 위험 요소

584-08-7	potassium carbonate ⚠ 급성 독성 - 경구 - 구분 4, H302; 심한 눈 손상성/눈 자극성 - 구분 2, H319	>2.5-≤10%
111-40-0	2,2'-iminodiethylamine ⚠ 피부 부식성/피부 자극성 - 구분 1, H314; ⚠ 급성 독성 - 경구 - 구분 4, H302; 급성 독성 - 경피 - 구분 4, H312; 피부 과민성 - 구분 1, H317	>2.5-≤10%

(3 쪽에 계속)

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123-31-9	하이드로퀴논 ⚠️ 생식세포 변이원성 - 구분 2, H341; 발암성 - 구분 2, H351; ⚠️ 심한 눈 손상성/눈 자극성 - 구분 1, H318; ⚠️ 수생환경 유해성 - 급성 1, H400; ⚠️ 급성 독성 - 경구 - 구분 4, H302; 피부 과민성 - 구분 1, H317	>2.5-≤10%
13047-13-7	4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one ⚠️ 급성 독성 - 경구 - 구분 3, H301	≤2.5%

## 4 응급조치 요령

- 응급조치요령 내용내용
- 흡입했을 때:  
신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- 피부에 접촉했을 때: 즉시 물과 비누로 씻고 잘 행군다.
- 눈에 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고 나서, 의사와 상담한다
- 먹었을 때: 증상이 지속될 경우에는 의사와 상담한다.
- 기타기타 각각의 주의사항:  
가장 가장 중요 한 긴급 응급 조치는 영향을 영향적인 정보가 존재하지 않습니다.
- 즉각적인 의료처치 및 특별처리가 필요함을 시사하는 징후 중 후적인 정보가 존재하지 않습니다.

## 5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제:  
이산화탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
- 본 화학물질이나 혼합물에서 발생 특별 특별 특성 추가적인 정보가 존재하지 않습니다.
- 소방 관에 대한 신고 사항
- 화재 화재 주의 주의 사항: 특별한 조치가 필요없음.

## 6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급조치 절차 필요없음.
- 환경 오염 방지 대책 조치:  
하천이나 하수로 유입되었을 경우 해당 관청에 보고한다.  
많은 물로 희석시킨다.  
하수도망/해수면 위의 물/지하수로 도달하지 않게 한다.
- 밀폐 밀폐 및 정화 정화 재 소재 소재  
액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- 관련 관련 관련 참조  
안전 관리에 대한 정보는 제7 장을 참고하십시오.  
개인 보호 장비에 대한 정보는 제8 장을 참고하십시오.  
쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

# 물질안전보건자료

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### 7 취급 및 저장방법

취급 취급 취급

안전안전안전을 위한 예방 조치

· 작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.

· 연무 질이 형성되는 것을 피한다.

화재 화재를 예방하기 위한 예방 대책에 관한 정보는 별도로 한 조치가 필요없음.

· 혼합 위험성: 안전 정보에 따른 조건

보관 보관 보관

· 안전장 저장 방법: 특별한 요구 사항이 없음.

· 하중 및 포장: 포장 시에 대한 특별한 정보 없음

· 보관 조건에 관한 추가 정보 없음

· 구체적인 최종 사용자 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

· 첨단시설 디자인에 대한 추가 정보: 더 이상 의 자료는 없음. 항목 7 을 참고하시오.

통제 통제 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

**111-40-0 2,2'-iminodiethylamine**

TLV (KR) 장기간의 값: 1 ppm  
Skin

REL (US) 장기간의 값: 4 mg/m<sup>3</sup>, 1 ppm  
Skin

TLV (US) 장기간의 값: 4.2 mg/m<sup>3</sup>, 1 ppm  
Skin

**123-31-9 하이드로퀴논**

TLV (KR) 장기간의 값: 2 mg/m<sup>3</sup>  
발암성 2, 생식세포 변이원성 2

PEL (US) 장기간의 값: 2 mg/m<sup>3</sup>

REL (US) 최고노출기준: 2\* mg/m<sup>3</sup>  
\*15-min

TLV (US) 장기간의 값: 1 mg/m<sup>3</sup>  
DSEN

· 추가 정보: 정보 할 당시에 유효한 목록을 기초로 사용했다.

노출 통제 통제 통제

개인 개인 보호구

· 일반적 보호 조치 및 위생 조치:

· 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.

· 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.

· 휴식 전이나 작업이 끝날 때 마다 손을 씻는다.

· 피부와의 접촉을 피한다.

· 눈과 피부와의 접촉은 피한다.

· 호흡기 보호 보호

· 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출 시에는

· 호흡 보호 장비를 사용한다.

(5 쪽에 계속)

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(4 쪽부터계속)

**보충 보호보호**



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.  
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.  
투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

**장갑 의재료**

적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

**장갑 재료 의 투과 시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

**보충 보호보호**



확조이는보안경

## 9 물리화학적 특성

기본 물리화학적 특성에 대한 정보

· <b>일반정보</b>	
외형외형외형	
· <b>물리상태상 태</b>	액체
· <b>색:</b>	밝은
· <b>냄새</b>	특색있는
· <b>후각역치</b>	알맞지않다.
· <b>pH 의경우 20 °C:</b>	10
· <b>상태변화</b>	
· <b>녹는점/어는점:</b>	맞지않는
· <b>초기초기 끓는 점과 끓는점범위범위</b>	>100 °C
· <b>인화점:</b>	97 °C
· <b>인화성 고체/기체</b>	해당사항 없음.
· <b>분해온도</b>	알맞지않다.
· <b>자기점화:</b>	이제품은자연발화성이없다.
· <b>폭발위험:</b>	이제품은폭발위험성이없다
· <b>인화 안전 인자</b>	아한
· <b>아래로:</b>	알맞지않다.
· <b>위로위로위로</b>	알맞지않다.
· <b>증기압:</b>	알맞지않다.
· <b>밀도 밀도 밀도 경우 20 °C:</b>	1.235 g/cm <sup>3</sup>
· <b>비중 비중 비중</b>	알맞지않다.
· <b>증기밀도:</b>	알맞지않다.
· <b>증발 증발 증발 속도</b>	알맞지않다.

(6 쪽에계속)





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(6 쪽부터계속)

## 12 환경에 미치는 영향

### 독성독성독성

- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환경 시스템에서의 행동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **생태독성:**

의견의견의견류 에 매우 독성임

- **추가적인 생태학 정보정보**

### 일반 열안정성특징

수질오염등급 3 (자체등급분류): 심하게수질오염이된  
지하수나, 하천으로또는하수도망에도달하지않게한다. 역시극소수의양이라도안된다.  
지하수로아주미세한양이유입되었을경우엔이미식수오염상태이다  
하천에서는역시물고기나플랑크톤게는독성이있다.  
물속의유기체에아주독이되는것

- **PBT(잔류성, 생물농축성, 물질독성) 및 vPvB(고 잔류성, 고 생물농축성) 물질인 경우 결과**
- **PBT(잔류성, 생물농축성, 물질독성) 물질인 경우** 당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성) 물질인 경우** 당사항 없음.

기타기타 부대용 추가적인 정보가 존재하지 않습니다.

## 13 폐기시 주의사항

- **폐기물 처리 방법**

권고 권고 권고 할 쓰레기와 함께 처리되어서는 안된다. 하수도망으로 유입되어서는 안된다.

- **비위생적 포장 포장**

권고 권고 권고 의지침에 입각한 쓰레기 처리.

- **추천 세정제:** 경우에 따라 세제가 첨가된 물

## 14 운송에 필요한 정보

### 유엔 유엔 유엔 번호

- **ADR, IMDG, IATA** UN2735

### 적정적정적정명

- **ADR** 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), ENVIRONMENTALLY HAZARDOUS
- **IMDG** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE), MARINE POLLUTANT
- **IATA** AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)

(8 쪽에계속)

# 물질안전보건자료 GHS에 따라

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(7 쪽부터 계속)

**교통 규정/유해물질 라벨링**

· ADR, IMDG



등급 등급 등급

· 위험물 라벨라벨

8 부식작용하는 물질  
8

· IATA



· Class  
· Label

8 부식작용하는 물질  
8

· 용기등급

· ADR, IMDG, IATA

II

· 환경적 유해물질:

· 해양오염물질:

특수 취급사항(ADR):

이 물질은 환경오염물질을 함유하고 있다: 하이드로퀴논  
심벌 (물고기와 나무)  
심벌 (물고기와 나무)

· 이 용기 특별 취급 조치

위험 위험 위험 코드

· E 번호 번호

· Segregation groups

· Stowage Category

· Segregation Code

경고: 부식작용하는 물질  
80  
F-A,S-B  
Alkalis  
A  
SG35 Stow "separated from" SGG1-acids

· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크물질 운송 운송

해당사항 없음.

· 운송/추가정보

· ADR

한정량(수량 제한)

· Excepted quantities (EQ)

1L  
Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

운송 운송 운송 구분

터널 제한 차량 제한 코드

2  
E

· IMDG

· Limited quantities (LQ)

· Excepted quantities (EQ)

1L  
Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

(9 쪽에 계속)

# 물질안전보건자료

## GHS에 따라 라다

인쇄일자: 2020.04.06

개정: 2020.04.06

**제품명: ILFORD MultiGrade Paper Developer**

(8 쪽부터 계속)

· **UN번호** **UN 2735** AMINES, LIQUID, CORROSIVE, N.O.S.

(DIETHYLENETRIAMINE), 8, II, ENVIRONMENTALLY HAZARDOUS

### 15 법적 규제 현황

· **산업안전보건법에 의한 유해화학물질 규제**

**제조제조물질** **금지물질:**

어떠한 내용물도 목록화 되어있지 않다

· **허가대상물질:**

어떠한 내용물도 목록화 되어있지 않다

· **관리대상유해물질:**

111-40-0 2,2'-iminodiethylamine

123-31-9 하이드로퀴논

· **작업환경측정 대상 유해인자**

111-40-0 2,2'-iminodiethylamine

1A13

123-31-9 하이드로퀴논

1A24

· **특수건강 집관 대상 유해인자**

111-40-0 2,2'-iminodiethylamine

1A15

123-31-9 하이드로퀴논

1A108

**해당 해당 물질 또는 혼합물에 대한 유해화학물질관리법 제 15조 제 1항 제 1호를 적용 받음**

· **Korean Existing Chemical Inventory**

584-08-7 potassium carbonate

KE-29083

111-40-0 2,2'-iminodiethylamine

KE-01357

123-31-9 하이드로퀴논

KE-35112

13047-13-7 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

KE-20661

· **화학물질관리법**

· **사고대비물질**

어떠한 내용물도 목록화 되어있지 않다

· **금지물질**

어떠한 내용물도 목록화 되어있지 않다

· **제한물질**

어떠한 내용물도 목록화 되어있지 않다

· **유독물질**

123-31-9 하이드로퀴논

· **허가물질**

123-31-9 하이드로퀴논

· **위험물안전관리법 (위험물 및 지정수량) 제 4: 4,000 리터**

**등록 유해화학물질 선제 대상 화학물질**

어떠한 내용물도 목록화 되어있지 않다

· **'21년까지 등록하여야 할 암, 돌연변이, 생식능력 이상을 일으킬 수 있는 기존 화학물질**

어떠한 내용물도 목록화 되어있지 않다

(10 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

인쇄일자: 2020.04.06

개정: 2020.04.06

**제품명: ILFORD MutiGrade Paper Developer**

(9 쪽부터 계속)

**· 중점관리물 취급지정지정**

**· 표1 중점관리물 질(제관전) 관련관련**

어떠한내용물도 목록화되어있지않다

**· 표2 중점관리물 질(제관전) 관련관련**

어떠한내용물도 목록화되어있지않다

**· 라벨 라벨과 표시 요소**

본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

**· 그림문자**



GHS05    GHS07    GHS08    GHS09

**· 신호어 위험**

**· 상표상에 명확히 위험성이 표시된 성분:**

- potassium carbonate
- 2,2'-iminodiethylamine
- 하이드로퀴논
- 4-(hydroxymethyl)-4-methyl-1-phenylpyrazolidin-3-one

**유해 유해 유해 유해 문구**

- 피부에 심한 화상과 눈에 손상을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 유전적인 결함을 일으킬 것으로 의심됨
- 암을 일으킬 것으로 의심됨
- 수생생물에 매우 유독함

**· 예방 조치 문구 문구**

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

밀봉하여 저장 하시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기 하시오.

**· 화학물질 안전성 평가 화학물질 안전성 평가가 수행되지 않음**

### 16 그 밖의 참고사항

이 보고서는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

최초 최초 작성 일자: 2020.04.06

개정 개정 개정 개정 최종 개정 일자: 1 / 2020.04.06

**· 약어와 두문자어:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent

(11 쪽에 계속)

# 물질안전보건자료

## GHS에 따라라따

인쇄일자: 2020.04.06

개정: 2020.04.06

**제품명: ILFORD MutiGrade Paper Developer**

PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

(10 쪽부터계속)

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 06.04.2020

Revisión: 06.04.2020

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** *ILFORD MultiGrade Paper Developer*

· **Número del artículo:** 83050-05, 83050-50

· **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**  
No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

#### · 1.3 Datos del proveedor de la ficha de datos de seguridad

##### · **Fabricante/distribuidor:**

*Electron Microscopy Sciences*

*1560 Industry Road*

*USA-Hatfield, PA 19440*

*Tel: 215-412-8400 Fax: 215-412-8450*

*email: info@emsdiasum.com*

*www.emsdiasum.com*

*Aname*

*C/ Perez Galdos no. 2*

*28693 Quijorna*

*Madrid, Spain*

*Tel: +34.91.816.89.50*

*Fax: +34.91.816.85.94*

*email: ventas@aname.es*

· **Área de información:** *Product safety department*

#### · 1.4 Teléfono de emergencia:

*ChemTrec 1-800-424-9300 Contract CCN7661*

*1-703-527-3887*

### SECCIÓN 2: Identificación de los peligros

#### · 2.1 Clasificación de la sustancia o de la mezcla

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS08 peligro para la salud

*Muta. 2 H341 Se sospecha que provoca defectos genéticos.*

*Carc. 2 H351 Se sospecha que provoca cáncer.*



GHS05 corrosión

*Skin Corr. 1B H314 Provoca quemaduras graves en la piel y lesiones oculares graves.*

*Eye Dam. 1 H318 Provoca lesiones oculares graves.*



GHS09 medio ambiente

*Aquatic Acute 1 H400 Muy tóxico para los organismos acuáticos.*



GHS07

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 06.04.2020

Revisión: 06.04.2020

Nombre comercial: **ILFORD MutiGrade Paper Developer**

( se continua en página 1 )

Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.

### · 2.2 Elementos de la etiqueta

#### · Etiquetado con arreglo al Reglamento (CE) n° 1272/2008

El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

#### · Pictogramas de peligro



GHS05 GHS07 GHS08 GHS09

#### · Palabra de advertencia Peligro

#### · Componentes peligrosos a indicar en el etiquetaje:

1,5-diamino-3-azopentano  
hidroquinona

#### · Indicaciones de peligro

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H341 Se sospecha que provoca defectos genéticos.

H351 Se sospecha que provoca cáncer.

H400 Muy tóxico para los organismos acuáticos.

#### · Consejos de prudencia

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

### · 2.3 Otros peligros

#### · Resultados de la valoración PBT y mPmB

· **PBT:** No aplicable.· **mPmB:** No aplicable.

## SECCIÓN 3: Composición/información sobre los componentes

### · 3.2 Caracterización química: Mezclas

· **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

#### · Componentes peligrosos:

CAS: 584-08-7 EINECS: 209-529-3	carbonato de potasio ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319	>2,5-≤10%
CAS: 111-40-0 EINECS: 203-865-4	1,5-diamino-3-azopentano ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	>2,5-≤10%
CAS: 123-31-9 EINECS: 204-617-8	hidroquinona ⚠ Muta. 2, H341; Carc. 2, H351; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	>2,5-≤10%

( se continua en página 3 )



# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 06.04.2020

Revisión: 06.04.2020

**Nombre comercial: ILFORD MutiGrade Paper Developer**

( se continua en página 2 )

CAS: 13047-13-7

1-fenil-4-(hidroximetil)-4-metilpirazolidin-3-ona

EINECS: 235-920-3

⚠ Acute Tox. 4, H302

≤2,5%

· **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

### SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**
- **En caso de inhalación del producto:**  
Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.  
Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.
- **En caso de con los ojos:**  
Limpiar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.
- **En caso de ingestión:** Consultar un médico si los trastornos persisten.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**  
No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**  
CO<sub>2</sub>, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** No se requieren medidas especiales.

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
- **6.2 Precauciones relativas al medio ambiente:**  
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.  
Diluir con mucha agua.  
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**  
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).  
Desechar el material contaminado como vertido según ítem 13.  
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**  
Ver capítulo 7 para mayor información sobre una manipulación segura.  
Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.  
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.

( se continua en página 4 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 06.04.2020

Revisión: 06.04.2020

Nombre comercial: **ILFORD MutiGrade Paper Developer**

( se continua en página 3 )

- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:** Ningunos, -as.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

### SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**  
Sin datos adicionales, ver punto 7.

#### · 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

##### **111-40-0 1,5-diamino-3-azopentano**

LEP Valor de larga duración: 4,3 mg/m<sup>3</sup>, 1 ppm  
vía dérmica, Sen

##### **123-31-9 hidroquinona**

LEP Valor de larga duración: 2 mg/m<sup>3</sup>  
Sen

- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

#### · 8.2 Controles de la exposición

- **Equipo de protección individual:**

- **Medidas generales de protección e higiene:**

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con la piel.

Evitar el contacto con los ojos y la piel.

- **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

- **Protección de manos:**



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

- **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

- **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

( se continua en página 5 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 06.04.2020

Revisión: 06.04.2020

Nombre comercial: **ILFORD MutiGrade Paper Developer**

( se continua en página 4 )

· **Protección de ojos:**

Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**· **Datos generales**· **Aspecto:**

Forma: Líquido

Color: Claro

· **Olor:** Característico· **Umbral olfativo:** No determinado.· **valor pH a 20 °C:** 10· **Cambio de estado**

Punto de fusión/punto de congelación: Indeterminado.

Punto inicial de ebullición e intervalo de ebullición: &gt;100 °C

· **Punto de inflamación:** 97 °C· **Inflamabilidad (sólido, gas):** No aplicable.· **Temperatura de descomposición:** No determinado.· **Temperatura de auto-inflamación:** El producto no es autoinflamable.· **Propiedades explosivas:** El producto no es explosivo.· **Límites de explosión:**

Inferior: No determinado.

Superior: No determinado.

· **Presión de vapor:** No determinado.· **Densidad a 20 °C:** 1,235 g/cm<sup>3</sup>· **Densidad relativa** No determinado.· **Densidad de vapor** No determinado.· **Tasa de evaporación:** No determinado.· **Solubilidad en / miscibilidad con agua:** Completamente mezclable.· **Coefficiente de reparto: n-octanol/agua:** No determinado.· **Viscosidad:**

Dinámica: No determinado.

Cinemática: No determinado.

· **Concentración del disolvente:**

VOC (CE) 0,00 %

· **Contenido de cuerpos sólidos:** 15,0 %· **9.2 Otros datos** No existen más datos relevantes disponibles.

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### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

#### 111-40-0 1,5-diamino-3-azopentano

Oral	LD50	1.080 mg/kg (rat)
Dermal	LD50	1.090 mg/kg (rabbit)

#### 123-31-9 hidroquinona

Oral	LD50	320 mg/kg (rat)
------	------	-----------------

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca quemaduras graves en la piel y lesiones oculares graves.
- **Lesiones o irritación ocular graves**  
Provoca lesiones oculares graves.
- **Sensibilización respiratoria o cutánea**  
Puede provocar una reacción alérgica en la piel.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
Se sospecha que provoca defectos genéticos.
- **Carcinogenicidad**  
Se sospecha que provoca cáncer.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Efectos ecotóxicos:**
- **Observación:** Muy tóxico para peces.

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- **Indicaciones medioambientales adicionales:**

- **Indicaciones generales:**

Nivel de riesgo para el agua 3 (autoclasiación): muy peligroso para el agua

No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.

Una cantidad ínfima vertida en el subsuelo ya representa un peligro para el agua potable.

Vertido en aguas superficiales, también es tóxico para los peces y el plancton.

muy tóxico para organismos acuáticos

- **12.5 Resultados de la valoración PBT y mPmB**

- **PBT:** No aplicable.

- **mPmB:** No aplicable.

- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**

- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.

- **Embalajes sin limpiar:**

- **Recomendación:** Eliminar conforme a las disposiciones oficiales.

- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**

- **ADR, IMDG, IATA**

UN2735

- **14.2 Designación oficial de transporte de las Naciones Unidas**

- **ADR**

2735 AMINAS LÍQUIDAS, CORROSIVAS, N.E.P. (DIETILENTRIAMINA), PELIGROSO PARA EL MEDIO AMBIENTE

- **IMDG**

AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENTRIAMINE), MARINE POLLUTANT

- **IATA**

AMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENTRIAMINE)

- **14.3 Clase(s) de peligro para el transporte**

- **ADR, IMDG**



- **Clase**

8 Materias corrosivas

- **Etiqueta**

8

- **IATA**



- **Class**

8 Materias corrosivas

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· <b>Label</b>	8
· <b>14.4 Grupo de embalaje</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Peligros para el medio ambiente:</b>  · <b>Contaminante marino:</b> · <b>Marcado especial (ADR):</b>	El producto contiene materias peligrosas para el medio ambiente: hidroquinona Símbolo (pez y árbol) Símbolo (pez y árbol)
· <b>14.6 Precauciones particulares para los usuarios</b> · <b>Número de identificación de peligro (Número Kemler):</b> · <b>Número EMS:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Segregation Code</b>	Atención: Materias corrosivas  80 F-A,S-B Alkalis A SG35 Stow "separated from" SGG1-acids
· <b>14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC</b>	No aplicable.
· <b>Transporte/datos adicionales:</b>	
· <b>ADR</b> · <b>Cantidades limitadas (LQ)</b> · <b>Cantidades exceptuadas (EQ)</b>	1L Código: E2 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 500 ml
· <b>Categoría de transporte</b> · <b>Código de restricción del túnel</b>	2 E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>"Reglamentación Modelo" de la UNECE:</b>	UN 2735 AMINAS LÍQUIDAS, CORROSIVAS, N.E.P. (DIETILENTRIAMINA), 8, II, PELIGROSO PARA EL MEDIO AMBIENTE

### SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
- **Categoría Seveso E1** Peligroso para el medio ambiente acuático
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 100 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 200 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

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### SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

· **Frases relevantes**

H302 Nocivo en caso de ingestión.

H312 Nocivo en contacto con la piel.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H318 Provoca lesiones oculares graves.

H319 Provoca irritación ocular grave.

H341 Se sospecha que provoca defectos genéticos.

H351 Se sospecha que provoca cáncer.

H400 Muy tóxico para los organismos acuáticos.

· **Abreviaturas y acrónimos:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicidad aguda - oral – Categoría 4

Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B

Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1

Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2

Skin Sens. 1: Sensibilización cutánea – Categoría 1

Muta. 2: Mutagenicidad en células germinales – Categoría 2

Carc. 2: Carcinogenicidad – Categoría 2

Aquatic Acute 1: Peligroso para el medio ambiente acuático - peligro acuático agudo – Categoría 1