

Material Safety Data Sheet

Printing date 07/28/2012

Reviewed on 07/17/2012

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

Product identifier

Trade name: **Image Development Reagent**

Catalog or product number: 1610464, 1610464EDU

Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.

Application of the substance / the preparation Laboratory chemicals

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group
2000 Alfred Nobel Drive
Hercules, California 94547

(510)741-1000

Information department:

Technical services, customer support
sg_techserv_us@bio-rad.com

Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.
510-741-1000

2 Hazards identification

Classification of the substance or mixture

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Irritant to skin.
Sensitizer by dermal contact.
Irritant to respiratory system and skin.
Xn; Harmful

R40: Limited evidence of a carcinogenic effect.

Xi; Irritant

R43: May cause sensitization by skin contact.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

The classification was made according to OSHA 29CFR 1910.1200 and 1910.1030, and is expanded upon from company and/or literature information.

Label elements

Labelling according to EU guidelines:

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

Code letter and hazard designation of product:



Xn Harmful

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Hazard-determining components of labelling:

formaldehyde

Risk phrases:

40 Limited evidence of a carcinogenic effect.

43 May cause sensitization by skin contact.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

51 Use only in well-ventilated areas.

60 This material and its container must be disposed of as hazardous waste.

Emergency overview:

Routes of exposure:

Ingestion

Skin

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS No. Description:

7732-18-5 water

Identification number(s):

EC number: 231-791-2

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with non-hazardous additions.

Listing of dangerous and non-hazardous components:

50-00-0	formaldehyde	T R23/24/25 C R34 Xn R40 Xi R43 Carc. Cat. 3	2.5-5%
7732-18-5	water		50-100%

Additional information For the wording of the listed risk phrases refer to section 15.

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 Induce vomiting and call for medical help.

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- 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 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents
CO₂, 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: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
Wear protective equipment (See section 8). Keep unprotected persons away.
- Environmental precautions:
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.
- 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.
- 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: According to product specification
- 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.

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Control parameters

Components with limit values that require monitoring at the workplace:

50-00-0 formaldehyde

PEL ()	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048
REL ()	Short-term value: C 0.1* ppm Long-term value: 0.016 ppm *15-min
TLV ()	Short-term value: C 0.37 mg/m ³ , C 0.3 ppm SEN

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.
- Breathing equipment: Not required.
- Protection of hands: Protective gloves.
- Material of gloves Synthetic gloves
- 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: Safety glasses

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	0°C
Boiling point/Boiling range:	undetermined

Flash point: Not applicable

Flammability (solid, gaseous) Not applicable.

Ignition temperature:

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

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- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower: Not determined.
 - Upper: Not determined.
- **Vapor pressure at 20°C:** 23 hPa
- **Density at 20°C:** 1 g/cm³
- **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:**
 - Organic solvents: 2.8 %
 - Water: 97.2 %
- **Other information:** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **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 for hazardous components per OSHA criteria:**

50-00-0 formaldehyde
Oral [LD50] >200 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** Sensitization 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:

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Irritant

- **Carcinogenic categories**

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

50-00-0 formaldehyde

1

- **NTP (National Toxicology Program)**

50-00-0 formaldehyde

R

- **Target organs:** Skin.

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.
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.
 - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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**
 - Hand over to hazardous waste disposers.
 - 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, ADN, IMDG, IATA** Void
- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Void
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA** Void
- **Class** Void

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- **Packing group**
• DOT, ADR, IMDG, IATA Void
- **Environmental hazards:**
• Marine pollutant: No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)

• Section 302/304 (40CFR355.30 / 40CFR355.40):

50-00-0 formaldehyde

• Section 313 (40CFR372.65):

50-00-0 formaldehyde

• TSCA (Toxic Substances Control Act):

All ingredients are listed.

• California Proposition 65:

• Chemicals known to cause cancer:

50-00-0 formaldehyde

• Carcinogenic categories

• EPA (Environmental Protection Agency)

50-00-0 formaldehyde

B1

• TLV (Threshold Limit Value established by ACGIH)

50-00-0 formaldehyde

A2

• MAK (German Maximum Workplace Concentration)

50-00-0 formaldehyde

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

50-00-0 formaldehyde

• OSHA-Ca (Occupational Safety & Health Administration)

50-00-0 formaldehyde

• National regulations

• Technical instructions (air):

Class	Share in %
I	2.5-5

• **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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.

- **Department issuing MSDS:** Environmental Health and Safety.

• **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- *** Data compared to the previous version altered.**

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