

# SAFETY DATA SHEET

FISH Hybridization Buffer and Mounting Buffer with DAPI

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

### 1.1 Product identifier

**Product name** : FISH Hybridization Buffer and Mounting Buffer with DAPI  
**Part no. (chemical kit)** : G9405A, G9406A  
**Part no.** : FISH Hybridization Buffer G9400-60000  
FISH Mounting Buffer G9404-60000  
with DAPI

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

**Material uses** : Analytical reagent.  
FISH Hybridization Buffer 0.1 ml  
FISH Mounting Buffer with DAPI 0.1 ml

### 1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**e-mail address of person responsible for this SDS** : pdl-msds\_author@agilent.com

### 1.4 Emergency telephone number

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(44)-870-8200418

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : FISH Hybridization Buffer Mixture  
FISH Mounting Buffer Mixture  
with DAPI

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]


##### **FISH Hybridization**

###### **Buffer**

H315	SKIN CORROSION/IRRITATION	Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2
H351	CARCINOGENICITY	Category 2
H360D	REPRODUCTIVE TOXICITY	Category 1B
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

###### **FISH Mounting Buffer with DAPI**

H412	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 3
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**Ingredients of unknown toxicity** :  FISH Hybridization Buffer Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30%  
FISH Mounting Buffer with DAPI Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: > 60%

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 2: Hazards identification**

**Ingredients of unknown ecotoxicity** : FISH Hybridization Buffer Contains 10% of components with unknown hazards to the aquatic environment

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

**2.2 Label elements**

**Hazard pictograms** : FISH Hybridization Buffer



**Signal word** : FISH Hybridization Buffer Danger  
 FISH Mounting Buffer with DAPI No signal word.

**Hazard statements** : FISH Hybridization Buffer H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.  
 H351 - Suspected of causing cancer.  
 H360D - May damage the unborn child.  
 H373 - May cause damage to organs through prolonged or repeated exposure.  
 FISH Mounting Buffer with DAPI H412 - Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention** : FISH Hybridization Buffer P201 - Obtain special instructions before use.  
 P280 - Wear protective gloves, protective clothing and eye or face protection.  
 P260 - Do not breathe vapour.  
 P264 - Wash thoroughly after handling.  
 P273 - Avoid release to the environment.  
 FISH Mounting Buffer with DAPI

**Response** : FISH Hybridization Buffer P308 + P313 - IF exposed or concerned: Get medical advice or attention.  
 FISH Mounting Buffer with DAPI Not applicable.

**Storage** : FISH Hybridization Buffer Not applicable.  
 FISH Mounting Buffer with DAPI Not applicable.

**Disposal** : FISH Hybridization Buffer P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.  
 FISH Mounting Buffer with DAPI P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : FISH Hybridization Buffer - Formamide  
 FISH Mounting Buffer with DAPI Not applicable.

**Supplemental label elements** : FISH Hybridization Buffer Not applicable.  
 FISH Mounting Buffer with DAPI Contains p-phenylenediamine. May produce an allergic reaction.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : FISH Hybridization Buffer Restricted to professional users.  
 FISH Mounting Buffer with DAPI Not applicable.

**Special packaging requirements**

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 2: Hazards identification**

**Tactile warning of danger** : FISH Hybridization Buffer Not applicable.  
 FISH Mounting Buffer Not applicable.  
 with DAPI

**2.3 Other hazards**

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : FISH Hybridization Buffer This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
 FISH Mounting Buffer This mixture does not contain any substances that are assessed to be a PBT or a vPvB.  
 with DAPI

**Other hazards which do not result in classification** : FISH Hybridization Buffer None known.  
 FISH Mounting Buffer None known.  
 with DAPI

**SECTION 3: Composition/information on ingredients**

**3.1 Substances** : FISH Hybridization Buffer Mixture  
 FISH Mounting Buffer with DAPI Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<b>FISH Hybridization Buffer</b> Formamide	EC: 200-842-0 CAS: 75-12-7 Index: 616-052-00-8	≥50 - ≤75	Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373 (blood) (oral)	[1] [2]
Dextran sulfate sodium	CAS: 9011-18-1	≥10 - <20	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Sodium chloride	EC: 231-598-3 CAS: 7647-14-5	≤10	Eye Irrit. 2, H319	[1]
<b>FISH Mounting Buffer with DAPI</b> Glycerol	REACH #: Annex V EC: 200-289-5 CAS: 56-81-5	≥90	Not classified.	[2]
p-Phenylenediamine	EC: 203-404-7 CAS: 106-50-3 Index: 612-028-00-6	<0.25	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=10)  <b>See Section 16 for the full text of the H statements declared above.</b>	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>Eye contact</b>	: FISH Hybridization Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	FISH Mounting Buffer with DAPI	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
<b>Inhalation</b>	: FISH Hybridization Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	FISH Mounting Buffer with DAPI	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	: FISH Hybridization Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	FISH Mounting Buffer with DAPI	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	: FISH Hybridization Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	FISH Mounting Buffer with DAPI	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs,

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**SECTION 4: First aid measures**

the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : FISH Hybridization Buffer No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

FISH Mounting Buffer with DAPI No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

Potential acute health effects

**Eye contact** : FISH Hybridization Buffer Causes serious eye irritation.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Inhalation** : FISH Hybridization Buffer No known significant effects or critical hazards.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Skin contact** : FISH Hybridization Buffer Causes skin irritation.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Ingestion** : FISH Hybridization Buffer No known significant effects or critical hazards.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

Over-exposure signs/symptoms

**Eye contact** : FISH Hybridization Buffer Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

FISH Mounting Buffer with DAPI No specific data.

**Inhalation** : FISH Hybridization Buffer Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

FISH Mounting Buffer with DAPI No specific data.

**Skin contact** : FISH Hybridization Buffer Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

FISH Mounting Buffer with DAPI No specific data.

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**SECTION 4: First aid measures**

<b>Ingestion</b>	: FISH Hybridization Buffer	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
	FISH Mounting Buffer with DAPI	No specific data.

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

<b>Notes to physician</b>	: FISH Hybridization Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	FISH Mounting Buffer with DAPI	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: FISH Hybridization Buffer	No specific treatment.
	FISH Mounting Buffer with DAPI	No specific treatment.

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

<b>Suitable extinguishing media</b>	: FISH Hybridization Buffer	Use an extinguishing agent suitable for the surrounding fire.
	FISH Mounting Buffer with DAPI	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: FISH Hybridization Buffer	None known.
	FISH Mounting Buffer with DAPI	None known.

**5.2 Special hazards arising from the substance or mixture**

<b>Hazards from the substance or mixture</b>	: FISH Hybridization Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	FISH Mounting Buffer with DAPI	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
<b>Hazardous combustion products</b>	: FISH Hybridization Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	FISH Mounting Buffer with DAPI	Decomposition products may include the following materials:  carbon dioxide carbon monoxide

**5.3 Advice for firefighters**

<b>Special precautions for fire-fighters</b>	: FISH Hybridization Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	FISH Mounting Buffer with DAPI	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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**SECTION 5: Firefighting measures**

<b>Special protective equipment for fire-fighters</b>	: FISH Hybridization Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	FISH Mounting Buffer with DAPI	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	: FISH Hybridization Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	FISH Mounting Buffer with DAPI	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: FISH Hybridization Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	FISH Mounting Buffer with DAPI	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

: FISH Hybridization Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
FISH Mounting Buffer with DAPI	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**6.3 Methods and material for containment and cleaning up**

<b>Methods for cleaning up</b>	: FISH Hybridization Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	FISH Mounting Buffer with DAPI	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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**SECTION 6: Accidental release measures**

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

<b>Protective measures</b>	: FISH Hybridization Buffer	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	FISH Mounting Buffer with DAPI	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	: FISH Hybridization Buffer	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
	FISH Mounting Buffer with DAPI	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Storage</b>	: FISH Hybridization Buffer	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	FISH Mounting Buffer with DAPI	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 7: Handling and storage**

before handling or use.

**7.3 Specific end use(s)**

- Recommendations** : FISH Hybridization Buffer Industrial applications, Professional applications.  
 FISH Mounting Buffer Industrial applications, Professional applications.  
 with DAPI
- Industrial sector specific solutions** : FISH Hybridization Buffer Not available.  
 FISH Mounting Buffer Not available.  
 with DAPI

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational exposure limits**

Product/ingredient name	Exposure limit values
FISH Hybridization Buffer Formamide	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> STEL: 56 mg/m <sup>3</sup> 15 minutes. STEL: 30 ppm 15 minutes. TWA: 37 mg/m <sup>3</sup> 8 hours. TWA: 20 ppm 8 hours.
FISH Mounting Buffer with DAPI Glycerol	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: Mist
p-Phenylenediamine	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> TWA: 0.1 mg/m <sup>3</sup> 8 hours.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

Product/ingredient name	Type	Exposure	Value	Population	Effects
FISH Hybridization Buffer Sodium chloride	DNEL	Short term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	126.65 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	295.52 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	443.28 mg/m <sup>3</sup>	General population	Systemic

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**SECTION 8: Exposure controls/personal protection**

	DNEL	Long term Inhalation	443.28 mg/ m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	2068.62 mg/m <sup>3</sup>	Workers	Systemic

**PNECs**

No PNECs available

**8.2 Exposure controls**

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

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

**Appearance**

<b>Physical state</b>	: FISH Hybridization Buffer	Liquid.
	FISH Mounting Buffer with DAPI	Liquid.
<b>Colour</b>	: FISH Hybridization Buffer	Not available.
	FISH Mounting Buffer with DAPI	Not available.

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**SECTION 9: Physical and chemical properties**

<b>Odour</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Odour threshold</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>pH</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. 7.5 to 8
<b>Melting point/freezing point</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Initial boiling point and boiling range</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Flash point</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Evaporation rate</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Flammability (solid, gas)</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not applicable. Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Vapour pressure</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Vapour density</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Relative density</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Solubility(ies)</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.

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**SECTION 9: Physical and chemical properties**

<b>Auto-ignition temperature</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Decomposition temperature</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Viscosity</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Explosive properties</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.
<b>Oxidising properties</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Not available. Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
<b>10.6 Hazardous decomposition products</b>	: FISH Hybridization Buffer FISH Mounting Buffer with DAPI	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
<b>FISH Hybridization Buffer</b> Formamide	LC50 Inhalation Dusts and mists	Rat - Male	>21 mg/l	4 hours
	LD50 Dermal	Rabbit	17 g/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
	Dextran sulfate sodium	Rat	20600 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-
<b>FISH Mounting Buffer with DAPI</b> p-Phenylenediamine	LC50 Inhalation Dusts and mists	Rat	920 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	80 mg/kg	-

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>FISH Hybridization Buffer</b> Formamide	4000	17000	N/A	N/A	N/A
Dextran sulfate sodium	20600	N/A	N/A	N/A	N/A
Sodium chloride	3000	N/A	N/A	N/A	N/A
<b>FISH Mounting Buffer with DAPI</b> FISH Mounting Buffer with DAPI	80070.4	300264	N/A	N/A	92.8
p-Phenylenediamine	80	300	N/A	N/A	0.92

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>FISH Hybridization Buffer</b> Formamide	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
<b>FISH Mounting Buffer with DAPI</b> p-Phenylenediamine	Skin - Mild irritant	Mouse	-	24 hours 250 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 12500 ug	-
	Skin - Moderate irritant	Rabbit	-	24 hours 250 mg	-
	Skin - Moderate irritant	Man	-	1 %	-

**Sensitiser**

**Skin** : May cause skin sensitisation.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 11: Toxicological information**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
<b>FISH Hybridization Buffer</b> Dextran sulfate sodium	Category 3	-	Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
<b>FISH Hybridization Buffer</b> Formamide	Category 2	oral	blood

**Aspiration hazard**

Not available.

**Information on likely routes of exposure** : FISH Hybridization Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.  
FISH Mounting Buffer with DAPI Routes of entry anticipated: Oral, Dermal, Inhalation.

**Potential acute health effects**

**Inhalation** : FISH Hybridization Buffer No known significant effects or critical hazards.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Ingestion** : FISH Hybridization Buffer No known significant effects or critical hazards.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Skin contact** : FISH Hybridization Buffer Causes skin irritation.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Eye contact** : FISH Hybridization Buffer Causes serious eye irritation.  
FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** : FISH Hybridization Buffer Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations  
FISH Mounting Buffer with DAPI No specific data.

**Ingestion** : FISH Hybridization Buffer Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations  
FISH Mounting Buffer with DAPI No specific data.

**Skin contact** : FISH Hybridization Buffer Adverse symptoms may include the following:  
irritation  
redness  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations  
FISH Mounting Buffer with DAPI No specific data.

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 11: Toxicological information**

**Eye contact** : FISH Hybridization Buffer Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness  
 FISH Mounting Buffer with DAPI No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

Potential chronic health effects

**General** : FISH Hybridization Buffer May cause damage to organs through prolonged or repeated exposure.  
 FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Carcinogenicity** : FISH Hybridization Buffer Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.  
 FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Mutagenicity** : FISH Hybridization Buffer No known significant effects or critical hazards.  
 FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**Reproductive toxicity** : FISH Hybridization Buffer May damage the unborn child.  
 FISH Mounting Buffer with DAPI No known significant effects or critical hazards.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
FISH Hybridization Buffer Sodium chloride	Acute EC50 4.74 g/L Fresh water	Algae - Chlamydomonas reinhardtii	96 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
	Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 0.314 g/L Fresh water Chronic NOEC 100 mg/l Fresh water	Daphnia - Daphnia pulex Fish - Gambusia holbrooki - Adult	21 days 8 weeks
FISH Mounting Buffer with DAPI p-Phenylenediamine	Acute LC50 3.9 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.00501 mg/l Fresh water	Daphnia - Daphnia magna	21 days

**12.2 Persistence and degradability**

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 12: Ecological information**

Product/ingredient name	Test	Result	Dose	Inoculum
FISH Hybridization Buffer Formamide	OECD 301A Ready Biodegradability - DOC Die-Away Test	99 % - Readily - 28 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
FISH Hybridization Buffer Formamide	-	-	Readily	
FISH Mounting Buffer with DAPI p-Phenylenediamine	-	-	Not readily	

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
FISH Hybridization Buffer Formamide	-0.82	-	low
FISH Mounting Buffer with DAPI p-Phenylenediamine	-0.839	-	low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to IMO instruments** : Not available.

**SECTION 15: Regulatory information**

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
<b>FISH Hybridization Buffer</b> Formamide	Toxic to reproduction	Candidate	ED/87/2012	6/18/2012

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Ingredient name	EC number	CAS number	Restriction
<b>FISH Hybridization Buffer</b> FISH Hybridization Buffer formamide	200-842-0	75-12-7	30 30

**Label** : FISH Hybridization Buffer Restricted to professional users.  
FISH Mounting Buffer with DAPI Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

**FISH Hybridization Buffer and Mounting Buffer with DAPI**

**SECTION 15: Regulatory information**

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : Not determined.
- Canada** : Not determined.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : **Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : Not determined.
- Republic of Korea** : Not determined.
- Taiwan** : All components are listed or exempted.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : Not determined.
- Viet Nam** : Not determined.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments might still be required.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

- Abbreviations and acronyms** :
- ATE = Acute Toxicity Estimate
  - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
  - DMEL = Derived Minimal Effect Level
  - DNEL = Derived No Effect Level
  - EUH statement = CLP-specific Hazard statement
  - N/A = Not available
  - PBT = Persistent, Bioaccumulative and Toxic
  - PNEC = Predicted No Effect Concentration
  - RRN = REACH Registration Number
  - vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<b>FISH Hybridization Buffer and Mounting Buffer with DAPI</b>	
<b>SECTION 16: Other information</b>	
<b>Classification</b>	<b>Justification</b>
<b>FISH Hybridization Buffer</b> Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 1B, H360D STOT RE 2, H373  <b>FISH Mounting Buffer with DAPI</b> Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method Calculation method  Calculation method

**Full text of abbreviated H statements**

<b>FISH Hybridization Buffer</b> H315 H319 H335 H351 H360D H373  <b>FISH Mounting Buffer with DAPI</b> H301 H311 H317 H319 H331 H400 H410 H412	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Suspected of causing cancer. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure.  Toxic if swallowed. Toxic in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
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**Full text of classifications [CLP/GHS]**

<b>FISH Hybridization Buffer</b> Carc. 2 Eye Irrit. 2 Repr. 1B Skin Irrit. 2 STOT RE 2  STOT SE 3  <b>FISH Mounting Buffer with DAPI</b> Acute Tox. 3 Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 3 Eye Irrit. 2 Skin Sens. 1	CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 REPRODUCTIVE TOXICITY - Category 1B SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3  ACUTE TOXICITY - Category 3 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN SENSITISATION - Category 1
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