

## SAFETY DATA SHEET

Conforms to EU Directive 91/155/EEC, as amended by 2001/58/EC - United Kingdom (UK)  
English

## 1. Identification of the substance/preparation and company/undertaking

**Product name** Reagent B (Initiator); part of 'IntenSE™ BL Silver Enhancement Kit'

**Catalogue Number** RPN492



**Component Number** RPN492V1

**Hazard symbol or symbols**



Harmful

**Product type** Liquid.

**Company/undertaking identification**

**Supplier** GE Healthcare Bio-Sciences AB  
SE-751 84 Uppsala  
Sweden  
+46 (0)18 612 0000

**Emergency telephone number**

Swedish Poisons Information Centre :  
+46 (0)8 331 231

**Person who prepared the MSDS:** msdslifesciences@ge.com

**United Kingdom (UK)** GE Healthcare UK Ltd  
Amersham Place  
Little Chalfont  
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HP7 9NA

0870 606 1921

## 2. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** Carc. Cat. 3; R40  
Muta. Cat. 3; R68  
R43

**Human health hazards** Limited evidence of a carcinogenic effect. Possible risk of irreversible effects. May cause sensitisation by skin contact.

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

## 3. Composition/information on ingredients

**Substance/preparation** Preparation

<u>Ingredient name</u>	<u>CAS number</u>	<u>%</u>	<u>EC number</u>	<u>Classification</u>
4,4-Dihydroxybenzene	123-31-9	<2	204-617-8	Carc. Cat. 3; R40 Muta. Cat. 3; R68 Xn; R22 Xi; R41 R43 N; R50 Xi; R36/37/38
Sodium sulphite	7757-83-7	1	231-821-4	

See section 16 for the full text of the R-phrases declared above

Occupational exposure limits, if available, are listed in section 8.



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## 4. First-aid measures

### First-aid measures

<b>Inhalation</b>	Move exposed person to fresh air. Keep person warm and at rest. 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.
<b>Ingestion</b>	Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	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>Protection of first-aiders</b>	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. Wash contaminated clothing thoroughly with water before removing or wear gloves.

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

## 5. Fire-fighting measures

### Extinguishing media

<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>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.</p>
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

<b>Personal precautions</b>	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 (see section 8).
<b>Environmental precautions</b>	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).
<b>Large spill</b>	Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
<b>Small spill</b>	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

<b>Handling</b>	Put on appropriate personal protective equipment (see section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. 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.
<b>Storage</b>	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.

### Packaging materials



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**Recommended**

Use original container.

**8. Exposure controls/personal protection****Ingredient name**

1,4-Dihydroxybenzene

**Occupational exposure limits****EH40-WEL (United Kingdom (UK), 9/2006).**WEL 8 hrs limit: 0.5 mg/m<sup>3</sup> 8 hour(s).**Exposure controls**

<b>Occupational exposure controls</b>	☑ 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.
<b>Respiratory protection</b>	☑ Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hand protection</b>	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.
<b>Eye protection</b>	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.
<b>Skin protection</b>	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. 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.
<b>Environmental exposure controls</b>	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.

**9. Physical and chemical properties****General information****Appearance**

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless.

**Important health, safety and environmental information**

<b>Explosive properties</b>	Not considered to be a product presenting a risk of explosion.
<b>Solubility</b>	☑ Easily soluble in the following materials: cold water and hot water.

**10. Stability and reactivity**

<b>Stability</b>	☑ The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>Materials to avoid</b>	☑ No specific data.

**11. Toxicological information****Potential acute health effects**

<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	☑ May cause sensitisation by skin contact.
<b>Eye contact</b>	☑ No known significant effects or critical hazards.

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
☑ 1,4-Dihydroxybenzene	LD50 Intraperitoneal	Rat	170 mg/kg	-
	LD50 Intravenous	Rat	115 mg/kg	-
	LD50 Intravenous	Rat	115 mg/kg	-
	LD50 Oral	Rat	320 mg/kg	-
	LD50 Oral	Rat	302 mg/kg	-
	LD50 Unreported	Rat	720 mg/kg	-
	LDLo Subcutaneous	Rat	300 mg/kg	-
	LD50 Oral	Rat	3560 mg/kg	-
Sodium sulphite				
<b>Conclusion/Summary</b>	Not available.			

**Potential chronic health effects**

<b>Chronic effects</b>	☑ Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
<b>Carcinogenicity</b>	☑ May cause cancer, based on animal data. Limited evidence of a carcinogenic effect. Risk of cancer depends on duration and level of exposure.
<b>Mutagenicity</b>	☑ May cause heritable genetic effects, based on animal data.
<b>Reproductive toxicity</b>	No known significant effects or critical hazards.



<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.
<b>Over-exposure signs/symptoms</b>	
<b>Inhalation</b>	No specific data.
<b>Ingestion</b>	No specific data.
<b>Skin</b>	Adverse symptoms may include the following: irritation redness
<b>Eyes</b>	No specific data.
<b>Target organs</b>	Contains material which causes damage to the following organs: upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

## 12. Ecological information

**Environmental effects** No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
1,4-Dihydroxybenzene	Intoxication	Acute EC50 0.29 mg/L	Daphnia	48 hours
	Intoxication	Acute EC50 0.13 mg/L	Daphnia	48 hours
	Mortality	Acute LC50 0.638 mg/L	Fish	96 hours
	Mortality	Acute LC50 0.097 mg/L	Fish	96 hours
	Mortality	Acute LC50 0.044 mg/L	Fish	96 hours

**Conclusion/Summary** Not available.

**Conclusion/Summary** Not available.

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

## 13. Disposal considerations

**Methods of disposal** The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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

## 14. Transport information

### International transport regulations

Not classified.

## 15. Regulatory information

### EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

**Hazard symbol or symbols**



Harmful

**Risk phrases**

R40- Limited evidence of a carcinogenic effect.  
R68- Possible risk of irreversible effects.  
R43- May cause sensitisation by skin contact.

**Safety phrases**

S36/37- Wear suitable protective clothing and gloves.

**Contains**

1,4-Dihydroxybenzene

204-617-8

**Product use**

Industrial applications.

**Europe inventory**

Europe inventory: Not determined.

### Other EU regulations



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## 16. Other information

### Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK)

R40- Limited evidence of a carcinogenic effect.  
R68- Possible risk of irreversible effects.  
R22- Harmful if swallowed.  
R41- Risk of serious damage to eyes.  
R36/37/38- Irritating to eyes, respiratory system and skin.  
R43- May cause sensitisation by skin contact.  
R50- Very toxic to aquatic organisms.

### Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK)

Carc. Cat. 3 - Carcinogen Category 3  
Muta. Cat. 3 - Mutagen Category 3  
Xn - Harmful  
Xi - Irritant  
N - Dangerous for the environment



Indicates information that has changed from previously issued version.

### History

Date of printing	10 January 2008	Date of previous issue	14 June 2006
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### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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