



## **MATERIAL SAFETY DATA SHEET**

According to EC Directive 91/155 EC

Date: 01/05/10

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

#### 1.1. Product Details:

Trade Name: ISOLATE Plant RNA Mini Kit

Catalogue Number: BIO-52039, 10 Reactions

BIO-52040, 50 Reactions

BIO-52041, 250 Reactions

#### 1.2. Company Details:

Manufacturer/ Supplier: Bioline

16 The Edge Business Centre

Humber Road

London

NW2 6EW

Tel: +44 (0)20 8830 5300

Fax: +44 (0)20 8452 2822

Further Information Obtainable from:

Technical Services

Details as above

#### Emergency Details:

24-Hour Contact in case of emergency:

Vergiftungs-Informations-Zentrale

Mathilden Strasse 1

79106 Freiburg

GERMANY

Tel: +49 (0) 761 19240.

### 2. Composition/ Information on Ingredients

#### 2.1 Chemical Characterization:

Trade Name: Lysis Buffer APR

Chemical Characterization: Aqueous solution of thiocyanate

Dangerous component:

Guanidium thiocyanate

CAS #

EEC #

R phrases

Symbol

593-84-0

209-812-1

20/21/22-32-52/53

Xn

### 3. Hazards Identification

For Humans: Harmful. Harmful by inhalation, in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

For the Environment: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

For Materials: Materials should be tested for resistance.

### 4. First Aid Measures

#### 4.1 After Inhalation:

Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical aid if cough or other symptoms appear. Risk of pulmonary oedema.

#### 4.2 After Swallowing:

Keep victim warm and calm. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Consult a doctor immediately.

#### 4.3 After Contact with Eyes:

Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult a doctor immediately.

#### 4.4 After Contact with Skin:

Wash contaminated areas with large volumes of soap and water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.

### 5. Fire Fighting Measures

#### 5.1 Suitable Extinguishing Media:

Water spray, CO<sub>2</sub> or dry chemical powder. Large fires should be confronted with appropriate foam.

#### 5.2 Fire Fighting Protective Measures:

Wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and protective garments. If possible, have this product removed from the fire scene.

### 6. Accidental Release Measures

#### 6.1 Personal Precautions:

Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), chemical safety goggles, rubber boots, and heavy rubber gloves.

#### 6.2 Environmental Precautions:

Do not allow to enter the surface or ground water. Do not allow to enter sewers.

#### 6.3 Clean-up Measures:

Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

### 7. Handling and Storage

#### 7.1 Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

#### 7.2 Storage:

Store tightly closed at Room Temperature. Store away from acids and oxidizers. Provide solvent resistant floor. Protect from sun. Protect from warming up/overheating.

### 8. Exposure Controls/ Personal Protection

Wear appropriate NIOSH / MSHA-Approved respirator, chemical resistant gloves, chemical safety goggles. Safety shower and eye both. Mechanical exhaust required. Keep tightly closed. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale dust, fumes.

Hygiene Practices: Avoid contact with skin or eyes. Do not place in mouth. Do not eat, drink or smoke when handling this product. Upon completion of the use of this product, dispose of protective gloves safely and wash hands thoroughly with soap and water.

### 9. Physical and Chemical Properties

Physical states / form: liquid  
Color: colorless  
Odor: characteristic  
Boiling point: 100°C  
Flashpoint: Not available  
Vapor pressure: Negligible  
Oxidising properties : No.  
Explosion hazard : No.  
Explosion limits: None  
Vapour pressure : Not available  
Density (g/ml) : ~ 1.1  
Solubility (in Water): miscible  
Soluble in: most organic solvents.

### 10. Stability and Reactivity

#### 10.1 Stability

Conditions to avoid: Avoid excess heat, flame, pressure, light and incompatible materials

#### 10.2 Reactivity

Substances to avoid: Contact with acids liberates irritant gases. Reacts with acids, alkali and oxidizers.

Hazardous, combustion or decomposition products: No dangerous decomposition products when properly handled. Thermal decomposition: thiocyanate.

Hazardous Polymerization: Has not been reported.

### 11. Toxicological Information

#### 11.1 Acute Effects:

Inhalation, LC50 rat, (mg/l/4h): N/A

Ingestion, LD50 rat, (mg/kg): N/A

Skin - contact, LD50 rat, (mg/kg): N/A

Irritation (to skin / eye): Mildly irritating – not to be labeled.  
Sensitization: Allergic reaction and sensitization are possible.

Chronic effects: N/A

#### 11.2 Further Toxicological Information

The product should be handled with the normal caution accorded to chemical handling.  
Additional harmful properties cannot be ruled out.

#### 12. Ecological Information

Harmful to aquatic organisms

May cause long-term adverse effects in the aquatic environment

#### 13. Disposal Considerations

##### 13.1 Product Disposal:

Recommendation : R 2 / D 10 Waste - Code - No. : 07 06 99

In addition comply with the regional authorities.

##### 13.2 Packaging Disposal:

Unclean packaging should be disposed of according to official regulations.

#### 14. Transport Information

Transportation by Road or Railway according to ADR and RID

Remarks: No dangerous goods according to ADR/IATA-DGR

#### 15. Regulatory Information

##### 15.1 Labelling According to EU Guidelines

Classification required by EEC: Yes. Applicable Exemptions: No.

Hazard Identification: Harmful

R-Phrases :

R 20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

R 32 - Contact with acids liberates very toxic gas.

R 52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases :

S 2: Keep out of reach of children.

S 13: Keep away from food, drink and animal feeding stuffs.

S 36 / 37: Wear suitable protective clothing and gloves.

#### 16. Other Information

The information provided in this Material Safety Data Sheet (MSDS) is accurate to the best of our present knowledge. However, this shall not constitute a guarantee for any specific product features. All substances and preparations may present unknown hazards and should be used with caution. Bioline shall not be held liable for any damage resulting from the handling of or contact with the above product. The information supplied in this MSDS shall not establish a legally valid contractual relationship.



## **MATERIAL SAFETY DATA SHEET**

According to EC Directive 91/155 EC

Date: 17/03/03

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

#### 1.1. Product Details:

Trade Name: ISOLATE Plant RNA Mini Kit

Catalogue Number: BIO-52039, 10 Reactions

BIO-52040, 50 Reactions

BIO-52041, 250 Reactions

#### 1.2. Company Details:

Manufacturer/ Supplier: Bioline

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Further Information Obtainable from:

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#### Emergency Details:

24-Hour Contact in case of emergency:

Vergiftungs-Informations-Zentrale

Mathilden Strasse 1

79106 Freiburg

GERMANY

Tel: +49 (0) 761 19240.

### 2. Composition/ Information on Ingredients

#### 2.1 Chemical Characterization:

Trade Name: Lysis Buffer BPR

Chemical Characterization: Aqueous solution of guanidium chloride and other additives

Dangerous component:

Guanidium chloride

CAS #	EEC #	R phrases	Symbol
50-01-1	200-002-3	22-36/38	Xn

### 3. Hazards Identification

For Humans: Harmful. Harmful if swallowed.

Irritating to eyes and skin.

For the Environment: Product may soil public waters by decreasing pH.

For Materials: Materials should be tested for resistance.

### 4. First Aid Measures

#### 4.1 After Inhalation:

Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical aid if cough or other symptoms appear.

#### 4.2 After Swallowing:

Summon a doctor immediately. Do not induce vomiting. Rinse mouth and drink plenty of water.

Note to physician: Symptomatic treatment

#### 4.3 After Contact with Eyes:

Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult a doctor immediately.

#### 4.4 After Contact with Skin:

Wash contaminated areas with large volumes of soap and water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.

### 5. Fire Fighting Measures

#### 5.1 Suitable Extinguishing Media:

Water spray, CO<sub>2</sub> or dry chemical powder. Large fires should be confronted with appropriate foam.

#### 5.2 Fire Fighting Protective Measures:

Wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and protective garments. If possible, have this product removed from the fire scene.

#### 5.3 Fire and Explosion Hazard:

In case of fire, product may form: carbon oxide, nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride (HCl).

### 6. Accidental Release Measures

#### 6.1 Personal Precautions:

Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), chemical safety goggles, rubber boots, and heavy rubber gloves.

#### 6.2 Environmental Precautions:

Do not allow to enter the surface or ground water. Do not allow to enter sewers.

#### 6.3 Clean-up Measures:

Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

### 7. Handling and Storage

### 7.1 Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

### 7.2 Storage:

Store tightly closed at Room Temperature. Store away from acids and oxidizers. Provide solvent resistant floor. Protect from sun. Protect from warming up/overheating.

## 8. Exposure Controls/ Personal Protection

Wear appropriate NIOSH / MSHA-Approved respirator, chemical resistant gloves, chemical safety goggles. Safety shower and eye both. Mechanical exhaust required. Keep tightly closed. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale dust, fumes.

Hygiene Practices: Avoid contact with skin or eyes. Do not place in mouth. Do not eat, drink or smoke when handling this product. Upon completion of the use of this product, dispose of protective gloves safely and wash hands thoroughly with soap and water.

## 9. Physical and Chemical Properties

Physical states / form: liquid  
Color: colorless  
Odor: characteristic  
Boiling point: 100°C  
Flashpoint: Not available  
Vapor pressure: Negligible  
Oxidising properties : No.  
Explosion hazard : No.  
Explosion limits: None  
Vapour pressure : Not available  
Density (g/ml) : ~ 1  
Solubility (in Water): miscible  
Soluble in: polar solvents.

## 10. Stability and Reactivity

### 10.1 Stability

Conditions to avoid: Avoid excess heat, flame, pressure, light and incompatible materials

### 10.2 Reactivity

Substances to avoid: Contact with strong oxidizing agents

Hazardous, combustion or decomposition products: No dangerous decomposition products when properly handled.

Hazardous Polymerization: Has not been reported.

## 11. Toxicological Information

### 11.1 Acute Effects:

Inhalation, LC50 rat, (mg/l/4h): N/A

Ingestion, LD50 rat, (mg/kg): N/A

Skin - contact, LD50 rat, (mg/kg): N/A  
Irritation (to skin / eye): Mildly irritating – not to be labeled.  
Sensitization: Allergic reaction and sensitization are possible.

Chronic effects: N/A

#### 11.2 Further Toxicological Information

The product should be handled with the normal caution accorded to chemical handling.  
Additional harmful properties cannot be ruled out.

#### 12. Ecological Information

Harmful to aquatic organisms  
May cause long-term adverse effects in the aquatic environment

#### 13. Disposal Considerations

##### 13.1 Product Disposal:

Recommendation : R 2 / D 10 Waste - Code - No. : 07 07 99  
In addition comply with the regional authorities.

##### 13.2 Packaging Disposal:

Unclean packaging should be disposed of according to official regulations.

#### 14. Transport Information

Transportation by Road or Railway according to ADR and RID  
Remarks: No dangerous goods according to ADR/IATA-DGR

#### 15. Regulatory Information

##### 15.1 Labelling According to EU Guidelines

Classification required by EEC: Yes. Applicable Exemptions: No.

Hazard Identification: Harmful

R-Phrases :

R 20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

R 32 - Contact with acids liberates very toxic gas.

R 52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases :

S 2: Keep out of reach of children.

S 13: Keep away from food, drink and animal feeding stuffs.

S 36 / 37: Wear suitable protective clothing and gloves.

#### 16. Other Information

The information provided in this Material Safety Data Sheet (MSDS) is accurate to the best of our present knowledge. However, this shall not constitute a guarantee for any specific product features. All substances and preparations may present unknown hazards and should be used with caution. Bioline shall not be held liable for any damage resulting from the handling of or contact with the above product. The information supplied in this MSDS shall not establish a legally valid contractual relationship.



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Trade Name: ISOLATE Plant RNA Mini Kit

Catalogue Number: BIO-52039, 10 Reactions

BIO-52040, 50 Reactions

BIO-52041, 250 Reactions

#### 1.2. Company Details:

Manufacturer/ Supplier: Bioline  
16 The Edge Business Centre  
Humber Road  
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NW2 6EW  
Tel: +44 (0)20 8830 5300  
Fax: +44 (0)20 8452 2822

Further Information Obtainable from:  
Technical Services  
Details as above

#### Emergency Details:

24-Hour Contact in case of emergency:

Vergiftungs-Informations-Zentrale  
Mathilden Strasse 1  
79106 Freiburg  
GERMANY  
Tel: +49 (0) 761 19240.

### 2. Composition/ Information on Ingredients

#### 2.1 Chemical Characterization:

Trade Name: Wash Buffer APR

Chemical Characterization: Aqueous solution of thiocyanate

Dangerous component:

Guanidium thiocyanate

CAS #	EEC #	R phrases	Symbol
593-84-0	209-812-1	20/21/22-32-52/53	Xn

### 3. Hazards Identification

For Humans: Harmful. Harmful by inhalation, in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

For the Environment: Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

For Materials: Materials should be tested for resistance.

### 4. First Aid Measures

#### 4.1 After Inhalation:

Remove victim to fresh air. Give oxygen if breathing becomes difficult. Should breathing stop, give artificial respiration. Get medical aid if cough or other symptoms appear. Risk of pulmonary oedema.

#### 4.2 After Swallowing:

Keep victim warm and calm. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Consult a doctor immediately.

#### 4.3 After Contact with Eyes:

Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult a doctor immediately.

#### 4.4 After Contact with Skin:

Wash contaminated areas with large volumes of soap and water for at least 15 minutes as contaminated clothing is removed. Get medical attention if area remains irritated. Do not wear contaminated clothing until after it has been properly cleaned.

### 5. Fire Fighting Measures

#### 5.1 Suitable Extinguishing Media:

Water spray, CO<sub>2</sub> or dry chemical powder. Large fires should be confronted with appropriate foam.

#### 5.2 Fire Fighting Protective Measures:

Wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and protective garments. If possible, have this product removed from the fire scene.

### 6. Accidental Release Measures

#### 6.1 Personal Precautions:

Wear self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent), chemical safety goggles, rubber boots, and heavy rubber gloves.

#### 6.2 Environmental Precautions:

Do not allow to enter the surface or ground water. Do not allow to enter sewers.

#### 6.3 Clean-up Measures:

Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

### 7. Handling and Storage

#### 7.1 Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

#### 7.2 Storage:

Store tightly closed at Room Temperature. Store away from acids and oxidizers. Provide solvent resistant floor. Protect from sun. Protect from warming up/overheating.

### 8. Exposure Controls/ Personal Protection

Wear appropriate NIOSH / MSHA-Approved respirator, chemical resistant gloves, chemical safety goggles. Safety shower and eye both. Mechanical exhaust required. Keep tightly closed. Wash thoroughly after handling. Do not get in contact with eyes, skin or on clothing. Do not inhale dust, fumes.

Hygiene Practices: Avoid contact with skin or eyes. Do not place in mouth. Do not eat, drink or smoke when handling this product. Upon completion of the use of this product, dispose of protective gloves safely and wash hands thoroughly with soap and water.

### 9. Physical and Chemical Properties

Physical states / form: liquid  
Color: colorless  
Odor: characteristic  
Boiling point: 100°C  
Flashpoint: Not available  
Vapor pressure: Negligible  
Oxidising properties : No.  
Explosion hazard : No.  
Explosion limits: None  
Vapour pressure : Not available  
Density (g/ml) : ~ 1.1  
Solubility (in Water): miscible  
Soluble in: most organic solvents.

### 10. Stability and Reactivity

#### 10.1 Stability

Conditions to avoid: Avoid excess heat, flame, pressure, light and incompatible materials

#### 10.2 Reactivity

Substances to avoid: Contact with acids liberates irritant gases. Reacts with acids, alkali and oxidizers.

Hazardous, combustion or decomposition products: No dangerous decomposition products when properly handled. Thermal decomposition: thiocyanate.

Hazardous Polymerization: Has not been reported.

### 11. Toxicological Information

#### 11.1 Acute Effects:

Inhalation, LC50 rat, (mg/l/4h): N/A

Ingestion, LD50 rat, (mg/kg): N/A

Skin - contact, LD50 rat, (mg/kg): N/A

Irritation (to skin / eye): Mildly irritating – not to be labeled.  
Sensitization: Allergic reaction and sensitization are possible.

Chronic effects: N/A

#### 11.2 Further Toxicological Information

The product should be handled with the normal caution accorded to chemical handling.  
Additional harmful properties cannot be ruled out.

#### 12. Ecological Information

Harmful to aquatic organisms  
May cause long-term adverse effects in the aquatic environment

#### 13. Disposal Considerations

##### 13.1 Product Disposal:

Recommendation : R 2 / D 10 Waste - Code - No. : 07 06 99  
In addition comply with the regional authorities.

##### 13.2 Packaging Disposal:

Unclean packaging should be disposed of according to official regulations.

#### 14. Transport Information

Transportation by Road or Railway according to ADR and RID  
Remarks: No dangerous goods according to ADR/IATA-DGR

#### 15. Regulatory Information

##### 15.1 Labelling According to EU Guidelines

Classification required by EEC: Yes. Applicable Exemptions: No.

Hazard Identification: Harmful

R-Phrases :

R 20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.

R 32 - Contact with acids liberates very toxic gas.

R 52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases :

S 2: Keep out of reach of children.

S 13: Keep away from food, drink and animal feeding stuffs.

S 36 / 37: Wear suitable protective clothing and gloves.

#### 16. Other Information

The information provided in this Material Safety Data Sheet (MSDS) is accurate to the best of our present knowledge. However, this shall not constitute a guarantee for any specific product features. All substances and preparations may present unknown hazards and should be used with caution. Bioline shall not be held liable for any damage resulting from the handling of or contact with the above product. The information supplied in this MSDS shall not establish a legally valid contractual relationship.

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According to EC Directive 91/155 EC  
Date: 17/03/03

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

1.1. Product Details:

Trade Name: ISOLATE Plant RNA Mini Kit

Catalogue Number: BIO-52039, 10 Reactions  
BIO-52040, 50 Reactions  
BIO-52041, 250 Reactions

1.2. Company Details:

Manufacturer/ Supplier: Bioline  
16 The Edge Business Centre  
Humber Road  
London  
NW2 6EW  
Tel: +44 (0)20 8830 5300  
Fax: +44 (0)20 8452 2822

Further Information Obtainable from:  
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Emergency Details:

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Mathilden Strasse 1  
79106 Freiburg  
GERMANY  
Tel: +49 (0) 761 19240.

2. Composition/ Information on Ingredients

2.1 Chemical Characterization:

Trade Name: Wash Buffer BPR

**Declaration:**

In reference to the directions on hazardous materials the product does not contain any dangerous components which have to be declared and in concentrations not to be considered respectively. The solution does not contain more than 1 % of a hazardous component and not more than 0,1 % of a carcinogenic component. Therefore we do not supply a Material Safety Data Sheet.

Nevertheless, we recommend to wear protective clothing (safety glasses, laboratory coats, protective gloves) during contact with our products. We assume no liability for damage resulting from handling or contact with these products.

**MATERIAL SAFETY DATA SHEET**  
According to EC Directive 91/155 EC  
Date: 17/03/03

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

1.1. Product Details:

Trade Name: ISOLATE Plant RNA Mini Kit

Catalogue Number: BIO-52039, 10 Reactions  
BIO-52040, 50 Reactions  
BIO-520413, 250 Reactions

1.2. Company Details:

Manufacturer/ Supplier: Bioline  
16 The Edge Business Centre  
Humber Road  
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Tel: +44 (0)20 8830 5300  
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79106 Freiburg  
GERMANY  
Tel: +49 (0) 761 19240.

2. Composition/ Information on Ingredients

2.1 Chemical Characterization:

Trade Name: RNase-free water

Declaration:

In reference to the directions on hazardous materials the product does not contain any dangerous components which have to be declared and in concentrations not to be considered respectively. The solution does not contain more than 1 % of a hazardous component and not more than 0,1 % of a carcinogenic component. Therefore we do not supply a Material Safety Data Sheet.

Nevertheless, we recommend to wear protective clothing (safety glasses, laboratory coats, protective gloves) during contact with our products. We assume no liability for damage resulting from handling or contact with these products.