



Raffinose/Sucrose/Glucose Assay Kit Information Sheet

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Product Name : Raffinose/Sucrose/Glucose Assay Kit
Catalogue Number: K-RAFGL

This kit is for laboratory use only. Not for drug, household or other uses.

This product is a kit which consists of several independently packaged components. One or more of these components includes a substance or preparation that is subject to classification according to 1272/2008 and 1999/45/EC. An SDS for each of these components is included. **Please do not separate any component SDS from this cover page.**

This kit should be handled in accordance with good laboratory practices and appropriate personal protective equipment should be used. For more information refer to the K-RAFGL booklet.

General appearance: This kit contains five glass vials and one plastic container.
Storage: The contents of this kit are stable as specified on the individual containers when stored under the recommended storage conditions.

**The hazards identified with this kit are those associated with the following components.
 For additional information, please refer to the included individual material safety data sheet(s).
 For more information refer to the K-RAFGL booklet.**

Contents:

Name	Description	Classification
Bottle 3**	GOPOD Reagent Buffer (pH 7.4) containing :- Potassium phosphate <i>p</i> -hydroxybenzoic acid Sodium azide (0.4 % w/w)	NA Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, H315, H319, H335 Xi, R36/37/38 Acute tox, 2, Acute aq. tox. 1, Chronic aq. tox, 1, H300, H410 T+, N, R28, R32, R50/53
Bottle 4	GOPOD Reagent Enzymes (Freeze dried powder) containing :- Glucose oxidase Peroxidase 4-Aminoantipyrine	Resp. Sens. 1; H334 Xn, R42 NA Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, H302, H315, H319, H335 Xn, R22 - R36/37/38

***Contains sodium azide (0.02% w/v) as a preservative. Contact with acids may form toxic gases.**

****Contains sodium azide (0.4% w/v) as a preservative. Contact with acids may form toxic gases.**

No substance or preparation included in the following kit components is subject to classification according to 1272/2008 and 1999/45/EC and therefore the requirements of 453/2010 do not apply. For more information refer to the K-RAFGL booklet.

Name	Description	Classification
Bottle 1*	α -Galactosidase suspension (<i>A. niger</i>)	2 mL
Bottle 2*	Solution (6 mL) containing :- Invertase BSA	6 mL
Bottle 5	Standard solution containing :- D-Glucose Benzoic acid (0.2 % w/v)	5 mL, 1.0 mg/mL
Bottle 5*	Soy-Flour reference sample	Containing glucose, sucrose and galactosyl-sucrose oligosaccharides
*Contains sodium azide (0.02% w/v) as a preservative. Contact with acids may form toxic gases.		

THE FOLLOWING INFORMATION IS GIVEN AS GENERAL ADVICE

As a general rule, in cases of accident, if you feel unwell when using this product, if in doubt, or if any symptoms persist, seek medical advice. Show the label where possible.

SAFE HANDLING

- Handle according to good hygiene, laboratory and safety practices.
- Use personal protective equipment that is clean and has been properly maintained, including: – Approved safety glasses with side shields, protective gloves (e.g. nitrile) and suitable laboratory clothing.
- Use only in areas with adequate ventilation, keep away from heat and sources of ignition. Avoid ingesting, breathing dust or vapours, contact with eyes, skin and clothing.
- Spillages should be cleaned up immediately (avoid raising dust or aerosol) and placed in a suitable container for disposal. Clean area using detergent and water only.

FIRST AID

Inhalation	Move to fresh air. If breathing becomes difficult immediately seek medical advice.
Eye contact	Remove contact lenses if fitted and easy to do. Flush eyes with plenty of water for at least 15 minutes. Seek medical advice.
Skin contact	Immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing and clean shoes before re-use. Seek medical advice.
Ingestion	If person is conscious immediately flush mouth with plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Seek medical advice.

FIRE-FIGHTING MEASURES

In case of fire, toxic and irritant fumes (nitrogen oxides, carbon monoxide, carbon dioxide) may be produced. Use dry chemical powder, water spray, carbon dioxide or foam to extinguish fire.

FURTHER INFORMATION

Precautions

Since the user's working conditions are not known by us, the information supplied in this kit information sheet is based on our current level of knowledge. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations. This kit must not be used for any purpose other than those specified.

Disclaimer

The information and recommendations contained herein are to the best of our knowledge reliable. However, Megazyme International Ireland does not guarantee the accuracy or completeness of the information and, as such, this document should be used as a guide only. In addition, nothing herein is to be construed as a warranty or representation in respect of safety in use, suitability and efficiency or otherwise, including freedom from patent infringements. Users should make their own tests for their particular purpose. We cannot accept any liability for any loss, damage or infringement arising from the use of the information or recommendations contained herein.



Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identification:

Product Name: *p*-Hydroxybenzoic acid

Synonym: 4-Hydroxybenzoic acid

Catalogue Number:

1.2 Relevant identified uses of the product and uses advised against:

For laboratory use only. Not for drug, household or other uses.

1.3 Details of company:

Company Name: Megazyme International Ireland

Address: Bray Business Park,
Bray, Co. Wicklow, Ireland.

Contact: Dr. Barry McCleary, PhD, DScAgr

Tel: +353-1-2861220

Fax: +353-1-2861264

E-mail: cs@megazyme.com

1.4 Emergency phone number:

+353-1-2861220 - Available from 9am to 5.30pm (local time Ireland).

2. HAZARD IDENTIFICATION

2.1 Classification of product:

Classification according to EC 1272/2008

Skin irritation (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Irritating to eyes, respiratory system and skin.

2.2 Labelling:

Labelling according EC 1272/2008 [CLP]

Pictogram



Signal Word

Warning

Hazard Statements

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary Statements

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P305 + P351 +

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

P338

Supplemental Hazard Statements

None

Labelling according to EU Directives 67/548/EEC, 1999/45/EC

Hazard Symbols



R-phrase

R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrase

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

2.3 Other Hazards:

None

3. INFORMATION ON PRODUCT COMPONENTS

3.1 Components:

Name	CAS #	EC #	Classification
p-Hydroxybenzoic acid	99-96-7	202-804-9	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, H315, H319, H335 Xi, R36/37/38

Synonyms

3.2 Mixtures:

Composition:

Name	CAS #	EC #	Classification

4. FIRST AID

4.1 General information:

The information in this section is given as general advice. As a general rule seek medical advice in cases of accident, if you feel unwell when using this product, if in doubt, or if symptoms persist. Show the label where possible.

Inhalation	Move to fresh air. If breathing becomes difficult immediately seek medical advice.
Eye contact	Remove contact lenses if fitted. Flush eyes with plenty of water for at least 15 minutes. Get medical advice.
Skin contact	Immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing and clean shoes before re-use. Get medical advice.
Ingestion	If person is conscious immediately flush mouth with plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical advice.

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

No data available.

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

No data available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable means of extinction

Dry chemical powder, water spray, carbon dioxide or foam.

Unsuitable methods of extinction

Water jet.

5.2 Special hazards arising from the substance or mixture:

Burning may produce toxic and irritant fumes (nitrogen oxides, carbon monoxide, carbon dioxide).

5.3 Advice for fire-fighters:

Fire Fighting Procedure

Wear breathing apparatus and full protective clothing.

5.4 Further information:

None

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment, avoid breathing dust or vapours, avoid contact with skin and eyes.

6.2 Environmental precautions:

Do not flush product into drains.

6.3 Methods and materials for containment and cleaning up:

All spillages should be dealt with immediately. Use personal protective equipment and sweep or mop up (avoid raising dust or aerosol) and place in a suitable container for disposal. Ventilate area and carefully wash any contaminated surfaces using detergent and water, do not use solvents. Wash all contaminated clothing.

6.4 Reference to other sections:

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Handle according to good hygiene, laboratory and safety practices. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use only in areas with adequate ventilation. Keep away from heat and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities:

Stable as specified on the individual container when stored under the recommended storage conditions.

7.3 Specific end uses:

No data available.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

8.1 Control parameters:

Occupational exposure limits

No data available.

8.2 Exposure Controls:

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before reusing.

Eye / face protection

Avoid contact with eyes.

Wear safety glasses with side shields conforming to standard EN 166 - prescription glasses are not considered as protection.

Provide eyewash stations in facilities where the product is handled constantly.

Hand protection

Use suitable protective gloves which conform to standard EN 374.

Body protection

Avoid contact with skin.

Wear suitable laboratory coat or any other protective clothing designed to minimise skin contact. All parts of the body that contact the product must be washed with soap and water.

Respiratory protection

Avoid breathing dust, vapours or aerosols.

A protective dust mask which meets the EN 143 standard is advisable to avoid breathing particulates when a powdered form of the product is being handled.

Use an approved respirator when aerosol, vapour or dust is generated.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties:****General information**

Appearance	Beige coloured solid
Solubility	~5 g/L
pH	3.3 at 3.3 g/L

9.2 Other information:

None

10. STABILITY AND REACTIVITY**10.1 Reactivity:**

No data available.

10.2 Chemical stability:

This product is stable when stored under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Avoid exposure to heat.

10.5 Incompatible materials:

Strong oxidising agents.

10.6 Hazardous decomposition products:

May produce toxic and irritant fumes (carbon oxides) on burning.

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects:**

To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been fully investigated.

Mixture

No data available for the mixture.

Acute toxicity

LD50 Oral > 10.0 mg/kg (rat).
Comments: Muscle weakness, Dyspnea.

Skin corrosion/skin irritation

Mild irritation (rabbit).

Serious damage to eyes/eye irritation

Moderate eye irritation (rabbit).

Respiratory or skin sensitisation

No data available.

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

Inhalation may cause respiratory irritation.

POTENTIAL HEALTH EFFECTS

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes serious eye irritation.

Signs and Symptoms of Exposure

No data available.

Additional Information

RTECS: DH1925000

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Toxicity to fish

LC50 - *Oncorhynchus mykiss* (rainbow trout) >99 mg/L.

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia magna* (Water flea) 173 mg/L.

12.2 Persistence and degradability:

Biodegradable.

12.3 Bioaccumulative potential:

No data available.

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

No data available.

12.6 Other adverse effects:

No data available.

13. DISPOSAL CONSIDERATIONS

Unused product and packaging may be disposed of in approved landfill sites, incineration or other method in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

RID/ADR

Not dangerous goods.

IMDG/IMO

Not dangerous goods.

ICAO/IATA

Not dangerous goods.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the product:

No data available.

15.2 Chemical safety assessment:

No data available.

16. FURTHER INFORMATION

Precautions

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

This product must not be used for any other uses than those specified in section 1.

Disclaimer

The information and recommendations contained herein are to the best of our knowledge reliable. However, Megazyme International Ireland does not guarantee the accuracy or completeness of the information and as such this document should be used as a guide only. In addition, nothing herein is to be construed as a warranty or representation in respect of safety in use, suitability and efficiency or otherwise, including freedom from patent infringements. Users should make their own tests for their particular purpose. We cannot accept any liability for any loss, damage or infringement arising from the use of the information or recommendations contained herein.



Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identification:

Product Name: Sodium Azide
Synonym: None
Catalogue Number: NA

1.2 Relevant identified uses of the product and uses advised against:

For laboratory use only. Not for drug, household or other uses.

1.3 Details of company:

Company Name: Megazyme International Ireland
Address: Bray Business Park,
 Bray, Co. Wicklow, Ireland.
Contact: Dr. Barry McCleary, PhD, DScAgr
Tel: +353-1-2861220
Fax: +353-1-2861264
E-mail: cs@megazyme.com

1.4 Emergency phone number:

+353-1-2861220 - Available from 9am to 5.30pm (local time Ireland).

2. HAZARD IDENTIFICATION

2.1 Classification of product:

Classification according to EC 1272/2008

Acute toxicity, Oral (Category 2)
 Acute aquatic toxicity (Category 1)
 Chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Very toxic if swallowed.
 Contact with acids liberates very toxic gas.
 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Labelling:

Labelling according EC 1272/2008 [CLP]

Pictogram



Signal Word

Danger

Hazard Statements

H300 Fatal if swallowed.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P264 Wash hands thoroughly after handling.
 P273 Avoid release to the environment.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P501 Dispose of contents/container to an approved waste disposal plant.

Supplemental Hazard Statements

EUH032 Contact with acids liberates very toxic gas.

Labelling according to EU Directives 67/548/EEC, 1999/45/EC

Hazard Symbols



R-phrase

R28 Very toxic if swallowed.
R32 Contact with acids liberates very toxic gas.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase

S28 After contact with skin, wash immediately with plenty of soap and water.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60 This material and its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other Hazards:

None

3. INFORMATION ON PRODUCT COMPONENTS

3.1 Components:

Name	CAS #	EC #	Classification
Sodium azide	26626-22-8	247-852-1	Acute tox. 2, Acute aq. tox. 1, Chronic aq. tox. 1, H300, H410 T ⁺ , N, R28, R32, R50/53

Synonyms

3.2 Mixtures:

Composition:

Name	CAS #	EC #	Classification

4. FIRST AID

4.1 General information:

The information in this section is given as general advice. As a general rule seek medical advice in cases of accident, if you feel unwell when using this product, if in doubt, or if symptoms persist. Show the label where possible.

Inhalation Move to fresh air. If breathing becomes difficult immediately seek medical advice.
Eye contact Remove contact lenses if fitted. Flush eyes with plenty of water for at least 15 minutes. Get medical advice.
Skin contact Immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing and clean shoes before re-use. Get medical advice.
Ingestion If person is conscious immediately flush mouth with plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical advice.

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

Nausea, headache, vomiting.
Animal studies have shown sodium azide may induce a profound hypotensive effect, demyelination of nerve fibers in the CNS, testicular damage, blindness.

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

No data available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable means of extinction

Dry chemical powder, water spray, carbon dioxide or foam.

Unsuitable methods of extinction

Water jet.

5.2 Special hazards arising from the substance or mixture:

Sodium oxides.

5.3 Advice for fire-fighters:

Fire Fighting Procedure

Wear breathing apparatus and full protective clothing.

5.4 Further information:

None

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment, avoid breathing dust or vapours, avoid contact with skin and eyes.

6.2 Environmental precautions:

Do not flush product into drains.

6.3 Methods and materials for containment and cleaning up:

All spillages should be dealt with immediately. Use personal protective equipment and sweep or mop up (avoid raising dust or aerosol) and place in a suitable container for disposal. Ventilate area and carefully wash any contaminated surfaces using detergent and water, do not use solvents. Wash all contaminated clothing.

6.4 Reference to other sections:

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Handle according to good hygiene, laboratory and safety practices. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use only in areas with adequate ventilation. Keep away from heat and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities:

Stable as specified on the individual container when stored under the recommended storage conditions.

7.3 Specific end uses:

No data available.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

8.1 Control parameters:

Occupational exposure limits

No data available.

8.2 Exposure Controls:

Engineering measures

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before reusing.

Eye / face protection

Avoid contact with eyes.

Wear safety glasses with side shields conforming to standard EN 166 - prescription glasses are not considered as protection.

Provide eyewash stations in facilities where the product is handled constantly.

Hand protection

Use suitable protective gloves which conform to standard EN 374.

Body protection

Avoid contact with skin.

Wear suitable laboratory coat or any other protective clothing designed to minimise skin contact. All parts of the body that contact the product must be washed with soap and water.

Respiratory protection

Avoid breathing dust, vapours or aerosols.

A protective dust mask which meets the EN 143 standard is advisable to avoid breathing particulates when a powdered form of the product is being handled.

Use an approved respirator when aerosol, vapour or dust is generated.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

General information

Appearance White Crystalline Substance.

Solubility Soluble in water.

pH No data available.

9.2 Other information:

None

10. STABILITY AND REACTIVITY

10.1 Reactivity:

No data available.

10.2 Chemical stability:

This product is stable when stored under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Avoid exposure to heat.

10.5 Incompatible materials:

Halogenated hydrocarbon, metals, acids, acid chlorides.

10.6 Hazardous decomposition products:

No data available.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been fully investigated.

Mixture

No data available for the mixture.

Acute toxicity

LD50 Oral 27 mg/kg (rat).

LC50 Inhalation 37 mg/m³ (rat).

LD50 Dermal 20 mg/kg (rabbit).

Skin corrosion/skin irritation

No data available.

Serious damage to eyes/eye irritation

No data available.

Respiratory or skin sensitisation

No data available.

POTENTIAL HEALTH EFFECTS

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be fatal if swallowed.

Skin May be fatal if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

Nausea, headache, vomiting.

Animal studies have shown sodium azide may induce a profound hypotensive effect, demyelination of nerve fibers in the CNS, testicular damage, blindness.

Additional Information

RTECS: VY8050000

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

Toxicity to fish

LC50 - *Lepomis macrochirus* – 0.68 mg/L.

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia pulex* (Water flea) – 4.2 mg/L.

- 12.2 Persistence and degradability:**
No data available.
- 12.3 Bioaccumulative potential:**
No data available.
- 12.4 Mobility in soil:**
No data available.
- 12.5 Results of PBT and vPvB assessment:**
No data available.
- 12.6 Other adverse effects:**
Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Unused product and packaging may be disposed of in approved landfill sites, incineration or other method in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

- 14.1 UN number**
- | | |
|----------------|------|
| ADR/RID | 1687 |
| IMDG | 1687 |
| IATA | 1687 |
- 14.1 UN proper shipping name**
- | | |
|----------------|--------------|
| ADR/RID | Sodium azide |
| IMDG | Sodium azide |
| IATA | Sodium azide |
- 14.3 Transport hazard class(es)**
- | | |
|------------------|-----|
| RID/ADR | 6.1 |
| IMDG/IMO | 6.1 |
| ICAO/IATA | 6.1 |
- 14.4 Packaging group**
- | | |
|------------------|----|
| RID/ADR | II |
| IMDG/IMO | II |
| ICAO/IATA | II |
- 14.5 Environmental hazards**
- | | |
|------------------|------------------|
| RID/ADR | Yes |
| IMDG/IMO | Marine pollutant |
| ICAO/IATA | No |
- 14.6 Special precautions for user**
No data available.

15. REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations/legislation specific for the product:**
No data available.
- 15.2 Chemical safety assessment:**
No data available.

16. FURTHER INFORMATION

Precautions

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

This product must not be used for any other uses than those specified in section 1.

Disclaimer

The information and recommendations contained herein are to the best of our knowledge reliable. However, Megazyme International Ireland does not guarantee the accuracy or completeness of the information and as such this document should be used as a guide only. In addition, nothing herein is to be construed as a warranty or representation in respect of safety in use, suitability and efficiency or otherwise, including freedom from patent infringements. Users should make their own tests for their particular purpose. We cannot accept any liability for any loss, damage or infringement arising from the use of the information or recommendations contained herein.



Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identification:

Product Name: Glucose Oxidase
Synonym: GOx, β -D-Glucose:oxygen 1-oxidoreductase
Catalogue Number: NA

1.2 Relevant identified uses of the product and uses advised against:

For laboratory use only. Not for drug, household or other uses.

1.3 Details of company:

Company Name: Megazyme International Ireland
Address: Bray Business Park,
 Bray, Co. Wicklow, Ireland.
Contact: Dr. Barry McCleary, PhD, DScAgr
Tel: +353-1-2861220
Fax: +353-1-2861264
E-mail: cs@megazyme.com

1.4 Emergency phone number:

+353-1-2861220 - Available from 9am to 5.30pm (local time Ireland).

2. HAZARD IDENTIFICATION

2.1 Classification of product:

Classification according to EC 1272/2008

Resp. Sens. 1

Classification according to EU Directives 67/548/EEC or 1999/45/EC

May cause sensitisation by inhalation.

2.2 Labelling:

Labelling according EC 1272/2008 [CLP]

Pictogram



Signal Word

Danger

Hazard Statements

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P342 + P311

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

Supplemental Hazard Statements

None

Labelling according to EU Directives 67/548/EEC, 1999/45/EC

Hazard Symbols



R-phrase

R42 May cause sensitisation by inhalation.

S-phrase

S22 Do not breathe dust.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3 Other Hazards:

None

3. INFORMATION ON PRODUCT COMPONENTS

3.1 Components:

Name	CAS #	EC #	Classification
Glucose oxidase	9001-37-0	232-601-0	Resp. Sens. 1; H334 Xn, R42

Synonyms

GOx, β -D-Glucose:oxygen 1-oxidoreductase

3.2 Mixtures:

Composition:

Name	CAS #	EC #	Classification

4. FIRST AID

4.1 General information:

The information in this section is given as general advice. As a general rule seek medical advice in cases of accident, if you feel unwell when using this product, if in doubt, or if symptoms persist. Show the label where possible.

Inhalation	Move to fresh air. If breathing becomes difficult immediately seek medical advice.
Eye contact	Remove contact lenses if fitted. Flush eyes with plenty of water for at least 15 minutes. Get medical advice.
Skin contact	Immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing and clean shoes before re-use. Get medical advice.
Ingestion	If person is conscious immediately flush mouth with plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical advice.

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

No data available.

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

No data available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable means of extinction

Dry chemical powder, water spray, carbon dioxide or foam.

Unsuitable methods of extinction

Water jet.

- 5.2 Special hazards arising from the substance or mixture:**
Burning may produce toxic and irritant fumes (nitrogen oxides, carbon monoxide, carbon dioxide).
- 5.3 Advice for fire-fighters:**
Fire Fighting Procedure
Wear breathing apparatus and full protective clothing.
- 5.4 Further information:**
None

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures:**
Use personal protective equipment, avoid breathing dust or vapours, avoid contact with skin and eyes.
- 6.2 Environmental precautions:**
Do not flush product into drains.
- 6.3 Methods and materials for containment and cleaning up:**
All spillages should be dealt with immediately. Use personal protective equipment and sweep or mop up (avoid raising dust or aerosol) and place in a suitable container for disposal. Ventilate area and carefully wash any contaminated surfaces using detergent and water, do not use solvents. Wash all contaminated clothing.
- 6.4 Reference to other sections:**
For disposal see section 13.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling:**
Handle according to good hygiene, laboratory and safety practices. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use only in areas with adequate ventilation. Keep away from heat and sources of ignition.
- 7.2 Conditions for safe storage, including any incompatibilities:**
Stable as specified on the individual container when stored under the recommended storage conditions.
- 7.3 Specific end uses:**
No data available.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

- 8.1 Control parameters:**
Occupational exposure limits
No data available.
- 8.2 Exposure Controls:**
Engineering measures
Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment**
Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before reusing.
- Eye / face protection**
Avoid contact with eyes.
Wear safety glasses with side shields conforming to standard EN 166 - prescription glasses are not considered as protection.
Provide eyewash stations in facilities where the product is handled constantly.
- Hand protection**
Use suitable protective gloves which conform to standard EN 374.

Body protection

Avoid contact with skin.

Wear suitable laboratory coat or any other protective clothing designed to minimise skin contact. All parts of the body that contact the product must be washed with soap and water.

Respiratory protection

Avoid breathing dust, vapours or aerosols.

A protective dust mask which meets the EN 143 standard is advisable to avoid breathing particulates when a powdered form of the product is being handled.

Use an approved respirator when aerosol, vapour or dust is generated.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

General information

Appearance Freeze dried powder.

Solubility Soluble in water.

pH No data available.

9.2 Other information:

None

10. STABILITY AND REACTIVITY

10.1 Reactivity:

No data available.

10.2 Chemical stability:

This product is stable when stored under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Avoid exposure to heat.

10.5 Incompatible materials:

Strong oxidising agents, strong bases.

10.6 Hazardous decomposition products:

May produce toxic and irritant fumes (nitrogen oxides, carbon monoxide, carbon dioxide) on burning.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been fully investigated.

Mixture

No data available for the mixture.

Acute toxicity

LD50 IP (mouse - 3 mg/kg).

Skin corrosion/skin irritation

No data available.

Serious damage to eyes/eye irritation

No data available.

Respiratory or skin sensitisation

May cause allergic respiratory reaction.

POTENTIAL HEALTH EFFECTS

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

No data available.

Additional Information

RTECS:RQ8452000

12. ECOLOGICAL INFORMATION**12.1 Toxicity:**

No data available.

12.2 Persistence and degradability:

No data available.

12.3 Bioaccumulative potential:

No data available.

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

No data available.

12.6 Other adverse effects:

No data available.

13. DISPOSAL CONSIDERATIONS

Unused product and packaging may be disposed of in approved landfill sites, incineration or other method in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION**RID/ADR**

Not dangerous goods.

IMDG/IMO

Not dangerous goods.

ICAO/IATA

Not dangerous goods.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the product:**

No data available.

15.2 Chemical safety assessment:

No data available.

16. FURTHER INFORMATION**Precautions**

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

This product must not be used for any other uses than those specified in section 1.

Disclaimer

The information and recommendations contained herein are to the best of our knowledge reliable. However, Megazyme International Ireland does not guarantee the accuracy or completeness of the information and as such this document should be used as a guide only. In addition, nothing herein is to be construed as a warranty or representation in respect of safety in use, suitability and efficiency or otherwise, including freedom from patent infringements. Users should make their own tests for their particular purpose. We cannot accept any liability for any loss, damage or infringement arising from the use of the information or recommendations contained herein.



Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identification:

Product Name: 4-Aminoantipyrine
Synonym: 4-Amino-2,3-dimethyl-1-phenyl-3-pyrazolin-5-one, Ampyrone
Catalogue Number: NA

1.2 Relevant identified uses of the product and uses advised against:

For laboratory use only. Not for drug, household or other uses.

1.3 Details of company:

Company Name: Megazyme International Ireland
Address: Bray Business Park,
 Bray, Co. Wicklow, Ireland.
Contact: Dr. Barry McCleary, PhD, DScAgr
Tel: +353-1-2861220
Fax: +353-1-2861264
E-mail: cs@megazyme.com

1.4 Emergency phone number:

+353-1-2861220 - Available from 9am to 5.30pm (local time Ireland).

2. HAZARD IDENTIFICATION

2.1 Classification of product:

Classification according to EC 1272/2008

Acute toxicity, Oral (Category 4)
 Skin irritation (Category 2)
 Eye irritation (Category 2)
 Specific target organ toxicity – single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful if swallowed. Irritating to eyes, respiratory system and skin.

2.2 Labelling:

Labelling according EC 1272/2008 [CLP]

Pictogram



Signal Word

Warning

Hazard Statements

H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

Precautionary Statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements

None

Labelling according to EU Directives 67/548/EEC, 1999/45/EC

Hazard Symbols



R-phrase

R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrase

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 Wear suitable protective clothing.

2.3 Other Hazards:

None

3. INFORMATION ON PRODUCT COMPONENTS

3.1 Components:

Name	CAS #	EC #	Classification
4-Aminoantipyrène	83-07-8	201-452-3	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, H302, H315, H319, H335 Xn, R22 – R36/37/38

Synonyms

3.2 Mixtures:

Composition:

Name	CAS #	EC #	Classification

4. FIRST AID

4.1 General information:

The information in this section is given as general advice. As a general rule seek medical advice in cases of accident, if you feel unwell when using this product, if in doubt, or if symptoms persist. Show the label where possible.

Inhalation Move to fresh air. If breathing becomes difficult immediately seek medical advice.
Eye contact Remove contact lenses if fitted. Flush eyes with plenty of water for at least 15 minutes. Get medical advice.
Skin contact Immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Wash clothing and clean shoes before re-use. Get medical advice.
Ingestion If person is conscious immediately flush mouth with plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Get medical advice.

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

No data available.

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

No data available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable means of extinction

Dry chemical powder, water spray, carbon dioxide or foam.

Unsuitable methods of extinction

Water jet.

- 5.2 Special hazards arising from the substance or mixture:**
Burning may produce toxic and irritant fumes (nitrogen oxides, carbon monoxide, carbon dioxide).
- 5.3 Advice for fire-fighters:**
Fire Fighting Procedure
Wear breathing apparatus and full protective clothing.

- 5.4 Further information:**
None

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures:**
Use personal protective equipment, avoid breathing dust or vapours, avoid contact with skin and eyes.
- 6.2 Environmental precautions:**
Do not flush product into drains.
- 6.3 Methods and materials for containment and cleaning up:**
All spillages should be dealt with immediately. Use personal protective equipment and sweep or mop up (avoid raising dust or aerosol) and place in a suitable container for disposal. Ventilate area and carefully wash any contaminated surfaces using detergent and water, do not use solvents. Wash all contaminated clothing.
- 6.4 Reference to other sections:**
For disposal see section 13.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling:**
Handle according to good hygiene, laboratory and safety practices. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use only in areas with adequate ventilation. Keep away from heat and sources of ignition.
- 7.2 Conditions for safe storage, including any incompatibilities:**
Stable as specified on the individual container when stored under the recommended storage conditions.
- 7.3 Specific end uses:**
No data available.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

- 8.1 Control parameters:**
Occupational exposure limits
No data available.
- 8.2 Exposure Controls:**
Engineering measures
Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment**
Use personal protective equipment that is clean and has been properly maintained. Store personal protective equipment in a clean place, away from the work area. Never eat, drink or smoke during use. Remove and wash contaminated clothing before reusing.
- Eye / face protection**
Avoid contact with eyes.
Wear safety glasses with side shields conforming to standard EN 166 - prescription glasses are not considered as protection.
Provide eyewash stations in facilities where the product is handled constantly.
- Hand protection**
Use suitable protective gloves which conform to standard EN 374.
- Body protection**
Avoid contact with skin.
Wear suitable laboratory coat or any other protective clothing designed to minimise skin contact. All parts of the body that contact the product must be washed with soap and water.

Respiratory protection

Avoid breathing dust, vapours or aerosols.

A protective dust mask which meets the EN 143 standard is advisable to avoid breathing particulates when a powdered form of the product is being handled.

Use an approved respirator when aerosol, vapour or dust is generated.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

General information

Appearance Solid
Solubility No data available.
pH No data available.

9.2 Other information:

None

10. STABILITY AND REACTIVITY

10.1 Reactivity:

No data available.

10.2 Chemical stability:

This product is stable when stored under the recommended handling and storage conditions.

10.3 Possibility of hazardous reactions:

No data available.

10.4 Conditions to avoid:

Avoid exposure to heat.

10.5 Incompatible materials:

Strong oxidising agents, strong acids, acid chlorides, acid anhydrides.

10.6 Hazardous decomposition products:

May produce toxic and irritant fumes (nitrogen oxides, carbon oxides) on burning.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

To the best of our knowledge, the chemical, physical and toxicological properties of this product have not been fully investigated.

Mixture

No data available for the mixture.

Acute toxicity

LD50 Oral 1.70mg/kg (rat).

Skin corrosion/skin irritation

No data available.

Serious damage to eyes/eye irritation

May cause irritation on contact with eyes.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

Genotoxicity *in vitro* - Histidine reversion (Ames).

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

POTENTIAL HEALTH EFFECTS

Inhalation May be harmful if inhaled. Causes respiratory tract infection.
Ingestion Harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.

Signs and Symptoms of Exposure

No data available.

Additional Information

RTECS: CD2480000

12. ECOLOGICAL INFORMATION

12.1 Toxicity:

No data available.

12.2 Persistence and degradability:

No data available.

12.3 Bioaccumulative potential:

No data available.

12.4 Mobility in soil:

No data available.

12.5 Results of PBT and vPvB assessment:

No data available.

12.6 Other adverse effects:

No data available.

13. DISPOSAL CONSIDERATIONS

Unused product and packaging may be disposed of in approved landfill sites, incineration or other method in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

RID/ADR

Not dangerous goods.

IMDG/IMO

Not dangerous goods.

ICAO/IATA

Not dangerous goods.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the product:

No data available.

15.2 Chemical safety assessment:

No data available.

16. FURTHER INFORMATION

Precautions

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