

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

1.1 Product Identifiers

Product Number M110
Product Name **B₁₂ Assay Agar, Using *E.coli* Mutant Culture (Harrison et al. Medium)**
REACH Registration Number This product is a mixture. Reach registration number is not available for this mixture.

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

1.2.1 Relevant identified uses Laboratory Chemicals, Analytical Purpose, Biochemical Analysis

1.3 Details of the supplier of the safety data sheet

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1.4 Emergency Tel. No.

Emergency Tel. No. Please contact the regional HiMedia representation in your country

2 Hazards Identification

2.1 Classification of the substance or mixture

CLP Classification-Regulation (EC) No. 1272/2008[EU-GHS/CLP]

Acute toxicity, Oral, (Category 4), H302
Serious eye damage or eye irritation, (Category 2A), H319

2.2 Label elements

Labeling according to Regulation (EC) No.1272/2008



Pictogram
Signal word Warning

Hazard Statement(s)

H319 Causes serious eye irritation

Precautionary Statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 IF eye irritation persists: Get medical advice/attention.

2.3 Other Hazards

None

3 Composition/Information On Ingredients

3.2 Mixture

Component	Classification	Concentration
Ammonium chloride		
CAS No. : 12125-02-9 EC No. : 235-186-4 Index-No : 017-014-00-8	As Per EC Regulation 1272/2008 Acute Tox.oral 4; Eye Irrit. 2A H302; H319	>=1.0 - <=10.0%

Component	Classification	Concentration
Ammonium nitrate		
CAS No. : 6484-52-2 EC No. : 229-347-8	As Per EC Regulation 1272/2008 Ox. Sol. 3; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3 H272; H315; H319; H335	>=1.0 - <=10.0%

Component	Classification	Concentration
Copper sulphate		
CAS No. : 7758-98-7 EC No. : 231-847-6	As Per EC Regulation 1272/2008 Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A; Aquatic Chronic 1 H302; H315; H319; H410	>=0.001 - <=0.01%

Component	Classification	Concentration
Ferrous sulphate		
CAS No. : 7720-78-7 EC No. : 231-753-5 Index-No : 026-003-00-7 Molecular Formula : FeSO ₄	As Per EC Regulation 1272/2008 Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A H302; H315; H319	>=0.001 - <=0.01%

Component	Classification	Concentration
Zinc sulphate		
CAS No. : 7446-19-7 EC No. : 231-793-3	As Per EC Regulation 1272/2008 Eye Dam. 1; Aquatic Chronic 1 H318; H410	>=0.001 - <=0.01%

Component	Classification	Concentration
Calcium chloride, anhydrous		
CAS No. : 10043-52-4 EC No. : 233-140-8	As Per EC Regulation 1272/2008 Eye Irrit. 2A H319	>=0.001 - <=0.01%

Component	Classification	Concentration
Manganese chloride anhydrous		
CAS No. : 7773-01-5	As Per EC Regulation 1272/2008 Acute Tox.oral 4; Eye Dam. 1; STOT RE 2; Aquatic Chronic 2 H302; H318; H373; H411	>=0.001 -
EC No. : 231-869-6		<=0.01%

Refer Section 16 for complete statement of H codes and its classification

4 First Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash with plenty of soap and water. Consult a physician.

In case of eye contact

Rinse immediately with plenty of water for at least 15 minutes. Consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of immediate medical attention and special treatment needed

No data available

5 Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol- resistant foam, dry chemical or carbon dioxide

Unsuitable extinguishing media

No data available.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Potassium oxides,, Hydrogen chloride gas

5.3 Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary

5.4 Further information

No data available

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert adsorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see Section 13.

7 Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended Storage Temperature : On receipt store between 2-8°C

7.3 Specific end uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8 Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the products.

Personal protective equipment

Hygiene measure

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with the product.

Eye/face protection

Tightly fitting safety goggles; Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425/EEC and the standard EN ISO 374-1/2016 derived from it.

Body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to

engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environment exposure controls

Do not empty into drains.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Cream to yellow coloured homogeneous free flowing powder
Odour	No data available
Odour Threshold	No data available
pH	7.00 - 7.40
Melting/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Flammability (Solid, gas)	No data available
Vapour pressure	No data available
Relative density	No data available
Water Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Vapour density	No data available
Thermal decomposition	No data available

9.2 Other safety information

No data available

10 Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Refer Section 5.2. Other Decomposition products not known.

11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity- single exposure

No data available

Aspiration hazard

No data available

Potential Health Effects

Inhalation

REFER SECTION 2

Skin

REFER SECTION 2

Eyes

REFER SECTION 2

Ingestion

REFER SECTION 2

Additional Information

RTECS : No data available

11.2 Components

Ammonium nitrate

Acute oral toxicity

LD50 rat: 2,462 mg/kg

Symptoms: Nausea, Vomiting, Diarrhoea, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

(OECD Test Guideline 401)

Acute inhalation toxicity

LC50 rat: > 88.8 mg/l; 4 h (IUCLID)

Symptoms: Inhalation may lead to the formation of oedemas in the respiratory tract.

(OECD Test Guideline 401)

Additional Information:

RTECS:BR9050000

Further information:

After absorption of large quantities:

Symptoms: Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms, key symptom: cyanosis (blue colouration of the blood). The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting and diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis and haemolysis.

Ammonium Chloride

Acute Oral Toxicity

Rat LD50: 1,650 mg/kg

Irritation and corrosion

Skin - rabbit - No skin irritation

Eyes - rabbit - Eye irritation

Sensitisation -Non sensitizer

Chronic exposure

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Signs and Symptoms of Exposure

No data available

Potential Health Effects

Inhalation

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

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

Causes eye irritation.

Ingestion

Harmful if swallowed

Ferrous sulphate

Acute Oral Toxicity

Mouse LD50: 1.520 mg/kg

Additional Information

RTECS: NO8510000

Copper sulphate

Acute oral toxicity

Rat LD50: 482 mg/kg

Acute dermal toxicity

Rat LD50:>2000 mg/kg

Skin irritation

Rabbit Result: Non irritant

Eye irritation

Rabbit Result: Highly irritating

Skin sensitization

Guinea pig Result: Non sensitizing

Genetic toxicity(in-vitro)

Ames test
Result: Negative (As Per OECD Test Guideline 471)
Genetic toxicity(in-vivo)
Mouse Micronucleus assay
Result: Negative
Carcinogenicity
Rat Result: Negative
Toxicity to Reproduction
No data available
Teratogenicity
No data available

Additional information:

RTECS: GL8800000

Calcium chloride

Acute oral toxicity
Rat LD50 : 1,000 mg/kg
(As per IUCLID)
Acute dermal toxicity
Rat LD50 : 2,630 mg/kg
(As per IUCLID)
Skin irritation
Rabbit
Result : No irritation
(As per OECD Test Guideline 404)
Eye irritation
Rabbit
Result: Eye irritation
(As per OECD Test Guideline 405)
Causes serious eye irritation.

Additional Information

RTECS: EV9800000

Zinc Sulphate, Heptahydrate
Acute Oral Toxicity
Rat LD50: 1,260 mg/kg (As Per RTECS)
Additional information
RTECS: ZH5300000

12 Ecological Information

12.1 Toxicity

No data available

Components

Ammonium chloride

Toxicity to fish

Oncorhynchus mykiss (rainbow trout) LC50: 42.91 mg/l; 96 h
(AS per ECHA)

Cyprinus carpio (Carp) LC50: 209.00 mg/l; 96 h

Lepomis macrochirus (Bluegill sunfish) EC10: 4.28 mg/l; 30 d
(As per ECHA)

Toxicity to daphnia and other aquatic invertebrates

Daphnia magna (Water flea) EC50: > 100 mg/l; 48 h
(As per ECHA)

Daphnia magna (Water flea) LC50: 161 mg/l - 48 h

Toxicity to algae

Chlorella vulgaris (Fresh water algae) EC50: 1,300 mg/l; 5 d
(As per ECHA)

Toxicity to bacteria

EC50 activated sludge: 1,310 mg/l; 0.5 h
(OECD Test Guideline 209)

Components

Ferrous sulphate

Toxicity to fish

Brook trout (Salvelinus fontinalis) LC 50: 0.41 mg/l ; 96h

Toxicity to daphnia and other aquatic invertebrates

Water flea (Daphnia magna) EC 50: 6.15 mg/l; 48h

Components:

Ammonium Nitrate

Toxicity to fish

LC50 Cyprinus carpio (Carp): 74 mg/l; 48 h (IUCLID)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 555 mg/l (IUCLID)

Toxicity to algae

IC50 Scenedesmus quadricauda (Green algae): 83 mg/l (IUCLID)

Component:

Copper sulphate

Toxicity to fish

Oncorhynchus mykiss Flow through test LC50: 200 µg/L; 96h

Toxicity to aquatic invertebrates

Daphnia magna (Water flea) Static test LC50: 7 µg/L; 48h

Toxicity to aquatic alga and cyanobacteria

Phaeodactylum tricornutum Static test EC10: 2.9 µg/L; 72h

Toxicity to terrestrial arthropods

Folsomia fimetaria EC10 : 688 mg/kg; 21d

Components

Calcium chloride

Toxicity to fish

Lepomis macrochirus (Bluegill sunfish) LC50 : 10,650 mg/l; 96 h

(As per IUCLID)

Toxicity to daphnia and other aquatic invertebrates

Daphnia magna (Water flea) EC50 : 144 mg/l; 48 h

(As per IUCLID)

Toxicity to algae

Algae IC50 : 3,130 mg/l; 120 h

(As per IUCLID)

Components

Zinc Sulphate, Heptahydrate

Toxicity to fish

Oncorhynchus mykiss (rainbow trout) LC50: 0.1 mg/l; 96 h

(As Per ECOTOX Database)

Toxicity to algae

Scenedesmus quadricuada (green algae) IC50: 0.52 mg/l; 5 d

(As Per IUCLID)

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 PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating or toxic (PBT) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

13 Disposal Considerations

13.1 Waste treatments methods

Product

Offer surplus and non-recyclable solutions to a licenced disposal company. Contact a licenced professional waste disposal service to dispose off this material.

13.2 Contaminated packaging

Dispose of as unused product.

14 Transport Information

14.1 UN-No

ADNR : ADR : IATA_C : IATA_P : IMDG : RID :

14.2 UN proper shipping name

ADNR : Not dangerous goods

ADR : Not dangerous goods

IATA_C : Not dangerous goods

IATA_P : Not dangerous goods
IMDG : Not dangerous goods
RID : Not dangerous goods

14.3 Transport hazard class(es)

ADNR : - ADR : - IATA_C : - IATA_P : - IMDG : - RID : -

14.4 Packaging group

ADNR : ADR : IATA_C : IATA_P : IMDG : RID :

14.5 Environmental hazards

ADNR : No ADR : No IMDG : Marine pollutant No IATA_C : No IATA_P : No RID : No

14.6 Special precautions for use

No data available

15 Regulatory Information

This safety datasheet complies with the requirements of Regulation(EC) No. 1907/2006.

15.1 Safety health and environment regulations/legislation specific for the substance or mixture

No data available

15.2 Chemical Safety Assessment

No data available

16 Other information

Text of H codes and classification mentioned in section 3

H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
Acute Tox.oral 4	Acute toxicity, oral, Category 4
Aquatic Chronic 1	Hazardous to the aquatic environment, long term hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, long term hazard, Category 2
Eye Dam. 1	Serious eye damage or eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage or eye irritation, Category 2A
Ox. Sol. 3	Oxidising solids, Category 3
Skin Irrit. 2	Skin corrosion or irritation, Category 2
STOT RE 2	Specific target organ toxicity, repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity, single exposure, Respiratory tract irritation, Category 3

Further Information

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The information given in this safety data sheet is believed to be correct yet does not claim to be all inclusive. This document is intended only as a guide for appropriate precautionary handling of the material by properly trained individuals, information here being commensurate with the present state of our knowledge regarding the manner and conditions of use, handling, storage or disposal. The information provided herein shall not be considered as guarantee of the properties of the product. HiMedia Laboratories, shall not be held liable for any damage resulting from improper handling or contact with the above product. Unless explicitly stated on the product or in any of the documentation accompanying the product, it is intended for research or testing purpose only and is not to be used for any other purpose.
