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

1.1 Product Identifiers

Product Number	PT046
Product Name	Murashige & Skoog Medium (Modification No. 1) w/ ½ Macroelements & Vitamins; w/o Sucrose & Agar
REACH Registration Number	Reach registration number is not available for this mixture. According to REACH regulation EC 1907/2006 this product is exempted from registration. The annual tonnage does not require a REACH registration or it is envisaged for a later registration deadline.

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

1.2.1	Relevant identified uses	Laboratory chemicals, Manufacture of substances
1.2.2	Uses advised against	No data available

1.3 Details of the supplier of the safety data sheet

Produced by	HiMedia Laboratories Private Limited	
Address	23, Vadhani Industrial Estate, LBS Marg, Ghatkopar (W), Mumbai - 400 086 India	
Tel. No.	+91-22-2500 0970, +91-22-2500 1607	Fax No.
Mail Id	ptc@himedialabs.com	Website : www.himedialabs.com

1.4 Emergency Tel. No.

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

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2 Hazards Identification

2.1 Classification of the substance or mixture

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

Oxidising solids, (Category 3), H272
Skin corrosion or irritation, (Category 2), H315
Serious eye damage or eye irritation, (Category 2A), H319
Specific target organ toxicity, single exposure, Respiratory tract irritation, (Category 3), H335
Hazardous to the aquatic environment, long term hazard, (Category 3), H412
For the full text of the H-Statements mentioned in this Section, See Section 16

2.2 Label elements

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

Pictogram
Signal word Warning

Hazard Statement(s)

H272	May intensify fire; oxidizer
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P221	Take any precaution to avoid mixing with combustibles.
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.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

2.3 Other Hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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3 Composition/Information On Ingredients

3.2 Mixture

Component	Classification	Concentration
Potassium nitrate		
CAS No. : 7757-79-1 EC No. : 231-818-8	**As Per EC Regulation 1272/2008** Ox. Sol. 3 H272	>=35 - <=45%

Component	Classification	Concentration
Ammonium nitrate		
CAS No. : 6484-52-2 EC No. : 229-347-8	**As Per EC Regulation 1272/2008** Ox. Sol. 2; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3 H272; H315; H319; H335 **As Per EC Directive 67/548/EEC or 1999/45/EC** O (gas); Xi R8; R36/37/38	>=30 - <=40%

Component	Classification	Concentration
Calcium chloride,anhydrous		
CAS No. : 10043-52-4	**As Per EC Regulation 1272/2008**	>=5 - <=9%

EC No. : 233-140-8	Eye Irrit. 2A H319	

Component	Classification	Concentration
Manganese sulphate		
CAS No. : 10034-96-5 EC No. : 232-089-9 Index-No : 025-003-00-4	**As Per EC Regulation 1272/2008** STOT RE 2; Aquatic Chronic 2 H373; H411	>=0.6 - <=0.9%

Component	Classification	Concentration
Boric acid		
CAS No. : 10043-35-3 EC No. : 233-139-2 Index-No : 005-007-00-2	**As Per EC Regulation 1272/2008** Repr.Tox. 1A, 1B H360	>=0.1 - <=0.3%

Component	Classification	Concentration
Potassium iodide		
CAS No. : 7681-11-0 EC No. : 231-659-4	**As Per EC Regulation 1272/2008** Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A H302; H315; H319	>=0.02 - <=0.05%

Component	Classification	Concentration
Zinc sulphate, heptahydrate		
CAS No. : 7446-20-0 EC No. : 231-793-3 Index-No : 030-006-00-9	**As Per EC Regulation 1272/2008** Acute Tox.oral 4; Eye Dam. 1; Aquatic Chronic 1 H302; H318; H410	>=0.2 - <=0.5%

Component	Classification	Concentration
Copper sulphate pentahydrate		
CAS No. : 7758-99-8	**As Per EC Regulation 1272/2008** H302; H315; H319; H410	>=0.0005 - <=0.002%

Component	Classification	Concentration
Cobalt chloride, 6H2O		
CAS No. : 7791-13-1 EC No. : 231-589-4 Index-No : 027-004-00-5	**As Per EC Regulation 1272/2008** Acute Tox.oral 4; Skin Sens. 1; Resp. Sens. 1; Muta. 2; Carc. 1B; Repr. 1B; Aquatic Chronic 1 H302; H317; H334; H341; H350i; H360F; H410	>=0.0005 - <=0.002%

Component		Classification	Concentration
Nicotinic acid			
CAS No. : EC No. :	59-67-6 200-441-0	**As Per EC Regulation 1272/2008** Eye Irrit. 2A H319	>=0.01 - <=0.03%

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

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of 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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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

Magnesium oxides, Sulphur oxides, Sodium oxides, Iron oxides, Calcium Oxide, Cobalt oxides, Copper oxides, Manganese oxides,, Molybdenum oxides, Oxides of Phosphorus, Potassium oxides, Zinc oxides

5.3 Precautions for fire-fighters

Cool closed containers exposed to fire with water spray.

5.4 Further information

Wear self-contained breathing apparatus for firefighting if necessary.

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personnel protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see Section 13.

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7 Handling and Storage

7.1 Precautions for safe handling

Avoid formation of dust and aerosols. Wear protective gloves and eye/face protection. Use only in well ventilated areas. Keep away from heat,sparks and open flame.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool/well-ventilated place. Storage class (TRGS 510): Oxidizing Solids

Recommended Storage Temperature : 2 - 8°C

7.3 Specific end uses

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

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8 Exposure Controls/Personal Protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks, immediately after handling the products and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN 166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Have eye-washing facilities readily available where eye contact can occur.

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 89/686/EEC and the standard EN 374 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 particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environment exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	White to off-white, homogenous powder
Odour	No data available
Odour Threshold	No data available
pH	3.5 - 4.5
Melting/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Upper/lower flammability or explosive limits	No data available
Evaporation rate	No data available
Flammability (Solid, gas)	No data available
Vapour pressure	No data available
Relative density	No data available
Water Solubility	Soluble in water
Autoignition Temperature	No data available
Decomposition 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

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10 Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions - Nitrogen oxides(NOx), Sulphur oxides, Oxides of phosphorus,. Potassium oxides, Magnesium oxide, Cobalt/cobalt oxides, Calcium oxide, Copper oxides

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11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available

Remarks : No data available

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 - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS **:** Not Applicable

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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 PBT and vPvB assessment

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

12.6 Other adverse effects

13 Disposal Considerations

13.1 Waste treatments methods

Product

Dispose of as unused product.

13.2 Contaminated packaging

Burn in a chemical incinerator equipped with an afterburner and srcubber but exert extra care in igniting as this material is highly flammable. Contact a licenced professional waste disposal service to dispose off this material.

14 Transport Information

14.1 UN-No

ADNR : 1477 ADR : 1477 IATA_C : 1477 IATA_P : 1477 IMDG : 1477 RID : 1477

14.2 UN proper shipping name

ADNR	:	Nitrates, inorganic, n.o.s.
ADR	:	Nitrates, inorganic, n.o.s.
IATA_C	:	Nitrates, inorganic, n.o.s.
IATA_P	:	Nitrates, inorganic, n.o.s.
IMDG	:	Nitrates, inorganic, n.o.s.
RID	:	Nitrates, inorganic, n.o.s.

14.3 Transport hazard class(es)

ADNR : 5.1 ADR : 5.1 IATA_C : 5.1 IATA_P : 5.1 IMDG : 5.1 RID : 5.1

14.4 Packaging group

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

14.5 Environmental hazards

ADR : No IMDG : Marine Pollutant : No IATA_C : No

14.6 Special precautions for use

No data available

15 Regulatory Information

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

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

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16 Other information

H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage

H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H350i	May cause cancer by inhalation
H360	May damage fertility or the unborn child
H360F	May damage fertility
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
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage or eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage or eye irritation, Category 2A
Muta. 2	Germ cell mutagenicity, Category 2
Ox. Sol. 3	Oxidising solids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Repr.Tox. 1A, 1B	Reproductive toxicity, Category 1A, 1B
Resp. Sens. 1 Skin	Sensitisation, respiratory, Category 1
Irrit. 2	Skin corrosion or irritation, Category 2
Skin Sens. 1 STOT	Sensitisation, Skin, Category 1
RE 2	Specific target organ toxicity, repeated exposure, Category 2 Specific
STOT SE 3	target organ toxicity, single exposure, Respiratory tract irritation, Category 3
R36/37/38	Irritating to eyes, respiratory system and skin.
R8	Contact with combustible material may cause fire.
O (gas)	Oxidising (gas)
Xi	Irritant

Further Information

 The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. HiMedia Laboratories, shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.