



Name of the Product  Code No. Section 1 :	: <b>Murashige &amp; Skoog Medium (Modification No. 10) w/ ½ NH<sub>4</sub>NO<sub>3</sub> &amp; ½ KNO<sub>3</sub>; w/o Vitamins, Sucrose &amp; Agar PT 1129</b>  <b>Chemical Identification</b> Code No. : PT 1129 Name of the Product : Murashige & Skoog Medium (Modification No. 10) w/ ½ NH <sub>4</sub> NO <sub>3</sub> & ½ KNO <sub>3</sub> ; w/o Vitamins, Sucrose & Agar Produced by : Central Drug House Pvt. Ltd. Address : 7/28 Vardaan House, Darya Ganj, New Delhi (INDIA) Tel. No. : 00 91 11 49404040
Section 2	<b>Hazards Identification</b>  <b>2.1 Classification of the substance or mixture</b> <b>CLP Classification-Regulation (EC) No. 1272/2008[EU-GHS/CLP]</b> 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  <b>2.2 Label elements</b> <b>Labeling according to Regulation (EC) No.1272/2008</b>  <div style="text-align: center;">   </div> <p style="text-align: center;"> <i>Pictogram</i>  <i>Signal word</i>                      <i>Warning</i>  <i>Hazard Statement(s)</i> .            H272                                      <i>May intensify fire; oxidizer</i>            H315                                      <i>Causes skin irritation</i>            H319                                      <i>Causes serious eye irritation</i>            H335                                      <i>May cause respiratory irritation</i>  <i>Precautionary Statement(s)</i>            P210                                      <i>Keep away from heat/sparks/open flames/hot surfaces. — No smoking.</i>            P280                                      <i>Wear protective gloves/protective clothing/eye protection/face protection.</i>            P305+P351+P338                      <i>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</i>            P370 + P378                              <i>In case of fire: Use suitable extinguishing media for extinction.</i> </p> <b>2.3 Other Hazards</b> <i>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.</i>
Section 3	<b>Composition/Information On Ingredients</b>  <b>3.1 Mixture</b>



Component	Classification	Concentration
Potassium nitrate		
CAS No. : 7757-79-1	<b>As Per EC Regulation 1272/2008</b>	>=30 - <=40%
EC No. : 231-818-8	Ox. Sol. 3 H272	

Component	Classification	Concentration
Ammonium nitrate		
CAS No. : 6484-52-2	<b>As Per EC Regulation 1272/2008</b>	>=30 - <=40%
EC No. : 229-347-8	Ox. Sol. 3; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3 H272; H315; H319; H335	

Component	Classification	Concentration
Calcium chloride, anhydrous		
CAS No. : 10043-52-4	<b>As Per EC Regulation 1272/2008</b>	>=10 - <=15%
EC No. : 233-140-8	Eye Irrit. 2A H319	

Component	Classification	Concentration
Manganese sulphate		
CAS No. : 10034-96-5	<b>As Per EC Regulation 1272/2008</b>	>=0.6 - <=0.8%
EC No. : 232-089-9	STOT RE 2; Aquatic Chronic 2 H373;	
Index-No : 025-003-00-4	H411	

Component	Classification	Concentration
Boric acid		
CAS No. : 10043-35-3	<b>As Per EC Regulation 1272/2008</b>	>=0.2 - <=0.3%
EC No. : 233-139-2	Repr.Tox. 1A, 1B H360	
Index-No : 005-007-00-2		

Component	Classification	Concentration
Potassium iodide		
CAS No. : 7681-11-0	<b>As Per EC Regulation 1272/2008</b>	>=0.03 - <=0.05%
EC No. : 231-659-4	Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A H302; H315; H319	

Component	Classification	Concentration
Zinc sulphate, heptahydrate		
CAS No. : 7446-20-0	<b>As Per EC Regulation 1272/2008</b>	>=0.3 - <=0.5%
EC No. : 231-793-3	Acute Tox.oral 4; Eye Dam. 1; Aquatic	
Index-No : 030-006-00-9	Chronic 1 H302; H318; H410	

For the full text of the H-Statements and classification mentioned in this Section, see Section 16

Section 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.



	<p><b>If inhaled</b> Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.</p> <p><b>In case of skin contact</b> Wash off with soap and plenty of water. Consult a physician.</p> <p><b>In case of eye contact</b> Rinse immediately with plenty of water for at least 15 minutes. Consult a physician.</p> <p><b>If swallowed</b> Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.</p> <p><b>4.2 Most important symptoms and effects, both acute and delayed</b> The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.</p> <p><b>4.3 Indication of immediate medical attention and special treatment needed</b> Treat symptomatically.</p>
Section 5	<b>Fire Fighting Measures</b>
	<p><b>5.1 Extinguishing media</b> <b>Suitable extinguishing media</b> Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. <b>Unsuitable extinguishing media</b> No data available.</p> <p><b>5.2 Special hazards arising from the substance or mixture</b> 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.</p> <p><b>5.3 Precautions for fire-fighters</b> Cool closed containers exposed to fire with water spray.</p> <p><b>5.4 Further information</b> Wear self-contained breathing apparatus for firefighting if necessary.</p>
Section 6	<b>Accidental Release Measures</b>
	<p><b>6.1 Personal precautions, protective equipment and emergency procedures</b> 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.</p> <p><b>6.2 Environmental precautions</b> Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into environment must be avoided.</p> <p><b>6.3 Methods and materials for containment and cleaning up</b> 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.</p> <p><b>6.4 Reference to other sections</b> For disposal see Section 13.</p>
Section 7	<b>Handling and Storage</b>
	<p><b>7.1 Precautions for safe handling</b> 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.</p> <p><b>7.2 Conditions for safe storage, including any incompatibilities</b> Store in cool/well-ventilated place. Storage class (TRGS 510): Oxidizing Solids <b>Recommended Storage Temperature</b> : 2 - 8°C</p> <p><b>7.3 Specific end uses</b> Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.</p>
Section 8	<b>Exposure Controls / Personal Protection</b>



	<p><b>8.1 Control parameters</b></p> <p><b>8.2 Exposure controls</b></p> <p><b>Appropriate engineering controls</b> Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.</p> <p><b>Personal protective equipment</b></p> <p><b>Eye/face protection</b> 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.</p> <p><b>Skin protection</b> 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.</p> <p><b>Body protection</b> 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.</p> <p><b>Respiratory protection</b> 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).</p> <p><b>Environment exposure controls</b> Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment Must be avoided.</p>																																								
Section 9	<b>Physical and Chemical Properties</b>																																								
	<p><b>9.1 Information on basic physical and chemical properties</b></p> <table border="0"> <tr> <td>Appearance</td> <td>White to off-white, homogenous powder</td> </tr> <tr> <td>Odour</td> <td>No data available</td> </tr> <tr> <td>Odour Threshold</td> <td>No data available</td> </tr> <tr> <td>pH</td> <td>3.6 - 4.6</td> </tr> <tr> <td>Melting/freezing point</td> <td>No data available</td> </tr> <tr> <td>Initial boiling point and boiling range</td> <td>No data available</td> </tr> <tr> <td>Flash point</td> <td>No data available</td> </tr> <tr> <td>Upper/lower flammability or explosive limits</td> <td>No data available</td> </tr> <tr> <td>Evaporation rate</td> <td>No data available</td> </tr> <tr> <td>Flammability (Solid, gas)</td> <td>No data available</td> </tr> <tr> <td>Vapour pressure</td> <td>No data available</td> </tr> <tr> <td>Relative density</td> <td>No data available</td> </tr> <tr> <td>Water Solubility</td> <td>Soluble in water</td> </tr> <tr> <td>Autoignition Temperature</td> <td>No data available</td> </tr> <tr> <td>Decomposition Temperature</td> <td>No data available</td> </tr> <tr> <td>Viscosity</td> <td>No data available</td> </tr> <tr> <td>Explosive properties</td> <td>No data available</td> </tr> <tr> <td>Oxidizing properties</td> <td>No data available</td> </tr> <tr> <td>Vapour density</td> <td>No data available</td> </tr> <tr> <td>Thermal decomposition</td> <td>No data available</td> </tr> </table> <p><b>9.2 Other safety information</b> No data available</p>	Appearance	White to off-white, homogenous powder	Odour	No data available	Odour Threshold	No data available	pH	3.6 - 4.6	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
Appearance	White to off-white, homogenous powder																																								
Odour	No data available																																								
Odour Threshold	No data available																																								
pH	3.6 - 4.6																																								
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																																								
Section 10	<b>Stability and Reactivity</b>																																								



	<p><b>10.1 Reactivity</b> No data available</p> <p><b>10.2 Chemical stability</b> Stable under recommended storage conditions.</p> <p><b>10.3 Possibility of hazardous reactions</b> No data available</p> <p><b>10.4 Conditions to avoid</b> No data available</p> <p><b>10.5 Incompatible materials</b> No data available</p> <p><b>10.6 Hazardous decomposition products</b> Hazardous decomposition products formed under fire conditions - Nitrogen oxides(NO<sub>x</sub>), Sulphur oxides, Oxides of phosphorus,. Potassium oxides, Magnesium oxide, Cobalt/cobalt oxides, Calcium oxide, Copper oxides</p>
Section 11	<b>Toxicological Information</b>
	<p><b>11.1 Information on toxicological effects</b></p> <p><b>Acute toxicity</b> No data available Remarks : No data available</p> <p>No data available</p> <p><b>Skin corrosion/irritation</b> No data available</p> <p><b>Serious eye damage/eye irritation</b> No data available</p> <p><b>Respiratory or skin sensitisation</b> No data available</p> <p><b>Germ cell mutagenicity</b> No data available</p> <p><b>Carcinogenicity</b> 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.</p> <p><b>Reproductive toxicity</b> No data available</p> <p><b>Specific target organ toxicity- single exposure</b> No data available</p> <p><b>Specific target organ toxicity - repeated exposure</b> No data available</p> <p><b>Aspiration hazard</b> No data available</p> <p><b>Additional Information</b> RTECS : Not applicable</p>
Section 12	<b>Ecological Information</b>
	<p><b>12.1 Toxicity</b> No data available</p> <p><b>12.2 Persistence and degradability</b> No data available</p> <p><b>12.3 Bioaccumulative potential</b> No data available</p> <p><b>12.4 Mobility in soil</b> No data available</p> <p><b>12.5 PBT and vPvB assessment</b> This preparation contains substances considered to be persistent, bioaccumulating or toxic (PBT) very persistent very bioaccumulative (vPvB) at levels of 0.1% or higher.</p> <p><b>12.6 Other adverse effects</b></p>
Section 13	<b>Disposal Considerations</b>



	<p><b>13.1 Waste treatments methods</b> <b>Product</b> Dispose of as unused product.</p> <p><b>13.2 Contaminated packaging</b> Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licenced professional waste disposal service to dispose off this material.</p>																																								
Section 14	<b>Transport Information</b>																																								
	<p><b>14.1 UN-No</b> ADNR : 1477 ADR : 1477 IATA_C : 1477 IATA_P : 1477 IMDG : 1477 RID : 1477 ‘</p> <p><b>14.2 UN proper shipping name</b> 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.</p> <p><b>14.3 Transport hazard class (es)</b> ADNR : 5.1 ADR : 5.1 IATA_C : 5.1 IATA_P : 5.1 IMDG : 5.1 RID : 5.1</p> <p><b>14.4 Packaging group</b> ADNR :- ADR :- IATA_C :- IATA_P :- IMDG :- RID :-</p> <p><b>14.5 Environmental hazards</b> ADR : NO IMDG : Marine Pollutant: No IATA_C : No</p> <p><b>14.6 Special precautions for use</b> No data available</p>																																								
Section 15	<b>Regulatory Information</b>																																								
	<p>This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006</p> <p><b>15.1 Safety health and environment regulations/legislation specific for the substance or mixture</b></p> <p><b>15.2 Chemical Safety Assessment</b> For this product a chemical safety assessment was not carried out.</p>																																								
Section 16	<b>Other Information</b>																																								
	<table> <tr><td>H272</td><td>May intensify fire; oxidizer</td></tr> <tr><td>H302</td><td>Harmful if swallowed</td></tr> <tr><td>H315</td><td>Causes skin irritation</td></tr> <tr><td>H318</td><td>Causes serious eye damage</td></tr> <tr><td>H319</td><td>Causes serious eye irritation</td></tr> <tr><td>H335</td><td>May cause respiratory irritation</td></tr> <tr><td>H360</td><td>May damage fertility or the unborn child</td></tr> <tr><td>H373</td><td>May cause damage to organs through prolonged or repeated exposure</td></tr> <tr><td>H410</td><td>Very toxic to aquatic life with long lasting effects</td></tr> <tr><td>H411</td><td>Toxic to aquatic life with long lasting effects</td></tr> <tr><td>Acute Tox.oral 4</td><td>Acute toxicity, oral, Category 4</td></tr> <tr><td>Aquatic Chronic 1</td><td>Hazardous to the aquatic environment, long term hazard, Category 1</td></tr> <tr><td>Aquatic Chronic 2</td><td>Hazardous to the aquatic environment, long term hazard, Category 2</td></tr> <tr><td>Eye Dam. 1</td><td>Serious eye damage or eye irritation, Category 1</td></tr> <tr><td>Eye Irrit. 2A</td><td>Serious eye damage or eye irritation, Category 2A</td></tr> <tr><td>Ox. Sol. 3</td><td>Oxidising solids, Category 3</td></tr> <tr><td>Repr.Tox. 1A, 1B</td><td>Reproductive toxicity, Category 1A, 1B</td></tr> <tr><td>Skin Irrit. 2</td><td>Skin corrosion or irritation, Category 2</td></tr> <tr><td>STOT RE 2</td><td>Specific target organ toxicity, repeated exposure, Category 2</td></tr> <tr><td>STOT SE 3</td><td>Specific target organ toxicity, single exposure, Respiratory tract irritation, Category 3</td></tr> </table>	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	H360	May damage fertility or the unborn child	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	Repr.Tox. 1A, 1B	Reproductive toxicity, Category 1A, 1B	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
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																																								
H360	May damage fertility or the unborn child																																								
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																																								
Repr.Tox. 1A, 1B	Reproductive toxicity, Category 1A, 1B																																								
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																																								



## Material Safety Data Sheet

### Further Information

The information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. The information is offered solely for user's obligation to investigate and determine the suitability of the information for their particular purpose.