Name of the Product			**Murashige & Skoog Medium**
Code No.			**PT 1021**
Section 1 :	**Chemical Identification**		
	Code No.	:	PT 1021
	Name of the Product	:	Murashige & Skoog Medium
	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 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

2.2 Label elements

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


GHS03


GHS07

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.
P273	Avoid release to the environment.
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.
P370 + P378	In case of fire: Use suitable extinguishing media for extinction.

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.

Section 3	**Composition/Information On Ingredients**

3.1 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	>=40 - <=50%

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 **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 EC No. : 233-140-8	**As Per EC Regulation 1272/2008** Eye Irrit. 2A H319	>=6 - <=8%

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	>=0.2 - <=0.5%

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 - <=0.2%

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	>=0.01 - <=0.03%

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	>=0.1 - <=0.3%

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 - <=0.0007%

Component	Classification	Concentration
Ferrous sulphate, heptahydrate (Part B)		
CAS No. : 7782-63-0 EC No. : 231-753-5	**As Per EC Regulation 1272/2008** Acute Tox.oral 4; Skin Irrit. 2; Eye Irrit. 2A H302; H315; H319	>=0.5 - <=0.7%

Component	Classification	Concentration
Nicotinic acid		
CAS No. : 59-67-6 EC No. : 200-441-0	**As Per EC Regulation 1272/2008** Eye Irrit. 2A H319	>=0.005 - <=0.02%

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.

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 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
Section 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.
Section 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.
Section 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.
Section 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.

Section 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

Section 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** Strong reducing agents, Strong acids, Powdered metals **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.
Section 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
Section 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**
Section 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.
Section 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** ADNR : No ADR : No IMDG : Marine pollutant No IATA_C : No **14.6 Special precautions for use** No data available
Section 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** **15.2 Chemical Safety Assessment** For this product a chemical safety assessment was not carried out.
Section 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 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.