

## SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 1

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Revision No: 2

### Section 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

**Product name:** MURASHIGE AND SKOOG BASAL MIXTURE 50L

**Product code:** PMM524C

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

#### 1.3. Details of the supplier of the safety data sheet

**Company name:** Apollo Scientific Ltd

Units 3 & 4

Parkway

Denton

Manchester

M34 3SG

UK

**Tel:** 01616411420

**Email:** alan.myers@apolloscientific.co.uk

#### 1.4. Emergency telephone number

**Emergency tel:** -

### Section 2: Hazards identification

#### 2.1. Classification of the substance or mixture

**Classification under CLP:** Ox. Sol. 2: H272; STOT SE 3: H335; Eye Irrit. 2: H319; Skin Irrit. 2: H315

**Most important adverse effects:** May intensify fire; oxidiser. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

#### 2.2. Label elements

**Label elements:**

**Hazard statements:** H272: May intensify fire; oxidiser.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

**Hazard pictograms:** GHS03: Flame over circle

GHS07: Exclamation mark

[cont...]

# SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 2



**Signal words:** Danger

**Precautionary statements:** P260: Do not breathe dust.

P271: Use only outdoors or in a well-ventilated area.

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

## 2.3. Other hazards

**PBT:** This product is not identified as a PBT/vPvB substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** MURASHIGE AND SKOOG BASAL MIXTURE 50L

**Contains:** Ammonium nitrate (37.5%), Boric Acid ( $\leq 0.14\%$ ), Zinc sulphate heptahydrate ( $\leq 0.2\%$ ), Calcium chloride ( $\leq 7.5\%$ ), Manganese sulphate monohydrate ( $\leq 0.4\%$ ), Cobalt dichloride hexahydrate ( $\leq 0.0006\%$ ), Copper sulphate pentahydrate ( $\leq 0.0006\%$ ), Edetate disodium dihydrate ( $\leq 1\%$ ), Ferrous sulphate heptahydrate ( $\leq 0.65\%$ ), Glycine ( $\leq 0.05\%$ ), Magnesium sulphate ( $\leq 4.1\%$ ), Myo-Inositol ( $\leq 2.5\%$ ), Nicotinic acid ( $\leq 0.01\%$ ), Potassium iodide ( $\leq 0.2\%$ ), Potassium nitrate (43.2%), Potassium dihydrogenorthophosphate ( $\leq 4\%$ ), Pyridoxine hydrochloride ( $\leq 0.01\%$ ), Disodium molybdate dihydrate ( $\leq 0.006\%$ ), Thiamine hydrochloride ( $\leq 0.002\%$ ).

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes. Consult a doctor.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** There may be a feeling of tightness in the chest with shortness of breath.

### 4.3. Indication of any immediate medical attention and special treatment needed

[cont...]

# SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 3

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Alcohol or polymer foam. Water spray. Carbon dioxide. Dry chemical powder.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** Oxidising. In combustion emits toxic fumes.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Remove all incompatible materials as outlined in section 10 of SDS.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 6.4. Reference to other sections

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Ensure there is sufficient ventilation of the area. Only use in fume hood.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed. Avoid incompatible materials and conditions - see section 10 of SDS. Recommended storage temp 2-8 °C.

**Suitable packaging:** Must only be kept in original packaging.

### 7.3. Specific end use(s)

**Specific end use(s):** No data available.

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Workplace exposure limits:** No data available.

### DNEL/PNEC Values

**DNEL / PNEC** No data available.

[cont...]

# SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 4

## 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

**Hand protection:** Protective gloves.

**Eye protection:** Safety goggles.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Solid

**Colour:** Off-white

**Odour:** Odourless

**Evaporation rate:** No Data Available

**Oxidising:** Oxidising (by EC criteria)

**Solubility in water:** Soluble

**Also soluble in:** No Data Available

**Viscosity:** Not available

**Boiling point/range°C:** No data available.

**Melting point/range°C:** No data available.

**Flammability limits %: lower:** No data available.

**upper:** No data available.

**Flash point°C:** No data available.

**Part.coeff. n-octanol/water:** No data available.

**Autoflammability°C:** No data available.

**Vapour pressure:** No data available.

**Relative density:** No data available.

**pH:** 3.5-4.5

**VOC g/l:** not known

### 9.2. Other information

**Other information:** No data available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions.

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions. Stable at room temperature.

### 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.

### 10.4. Conditions to avoid

**Conditions to avoid:** Heat. Sources of ignition.

[cont...]

# SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 5

## 10.5. Incompatible materials

**Materials to avoid:** Strong reducing agents. Strong acids. Finely powdered metals.

## 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Relevant hazards for product:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated
STOT-single exposure	INH	Hazardous: calculated

### Symptoms / routes of exposure

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.

**Ingestion:** There may be irritation of the throat.

**Inhalation:** There may be a feeling of tightness in the chest with shortness of breath.

## Section 12: Ecological information

### 12.1. Toxicity

**Ecotoxicity values:** No data available.

### 12.2. Persistence and degradability

**Persistence and degradability:** No data available.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No data available.

### 12.4. Mobility in soil

**Mobility:** No data available.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This product is not identified as a PBT/vPvB substance.

### 12.6. Other adverse effects

**Other adverse effects:** No data available.

## Section 13: Disposal considerations

[cont...]

# SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 6

## 13.1. Waste treatment methods

**Disposal operations:** MATERIAL SHOULD BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

**Disposal of packaging:** Dispose of as special waste in compliance with local and national regulations Observe all federal, state and local environmental regulations.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN1477

### 14.2. UN proper shipping name

**Shipping name:** NITRATES, INORGANIC, N.O.S.

### 14.3. Transport hazard class(es)

**Transport class:** 5.1

### 14.4. Packing group

**Packing group:** II

### 14.5. Environmental hazards

**Environmentally hazardous:** No

**Marine pollutant:** No

### 14.6. Special precautions for user

## Section 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

\* Data predicted using computational software. The OECD QSAR-Toolbox for grouping chemicals into categories. Developed by LMC bulgaria.

<http://echa.europa.eu/support/oecd-qsar-toolbox>

**Phrases used in s.2 and s.3:** H272: May intensify fire; oxidiser.

H315: Causes skin irritation.

[cont...]

## SAFETY DATA SHEET

MURASHIGE AND SKOOG BASAL MIXTURE 50L

Page: 7

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

**Legal disclaimer:** .The material is intended for research purposes only and should be handled exclusively by those who have been fully trained in safety, laboratory and chemical handling procedures. The above information is believed to be correct to the best of our knowledge. The above information is believed to be correct to the best of our knowledge at the date of its publication, but should not be considered to be all inclusive. It should be used only as a guide for safe handling, storage, transportation and disposal. We cannot guarantee that the hazards detailed in this document are the only hazards that exist for this product. This is not a warranty and Apollo Scientific Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.