

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

1 Identification

- **Product identifier**
- **Trade name:** Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin
- **Article number:** 2610020
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Research use only.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
United States
www.mpbio.com
- **MP Biomedicals Australia Pty Limited**
2/29 Bearing Road
Seven Hills, NSW 2147 Aust.
Telephone Number: (02) 9838 7422
Fax Number: (02) 9838 7390
www.mpbio.com
- **Further information obtainable from:** Quality Control Department
- **Emergency telephone number:**
CHEMTREC: 1-800-424-9300 (1-703-527-3887)
Australia Poison Control Centre: +61 13 11 26

2 Hazard(s) Identification

- **Classification of the substance or mixture**



flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 1)

· **Hazard pictograms**



GHS03 GHS07

· **Signal word** *Danger*

· **Hazard statements**

May intensify fire; oxidiser.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat. - No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:**

Mixture of substances listed below with nonhazardous additions.

Mixture: consisting of the following components.

· **Dangerous components:**

CAS: 7757-79-1 EINECS: 231-818-8 RTECS: TT 3700000	Potassium Nitrate ⚠ Ox. Sol. 3, H272; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	≥25-≤50%
CAS: 6484-52-2 EINECS: 229-347-8 RTECS: BR9050000	Ammonium Nitrate ⚠ Ox. Sol. 2, H272; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	≥20-≤50%
CAS: 10043-52-4 EINECS: 233-140-8 RTECS: EV 9800000	Calcium Chloride ⚠ Eye Irrit. 2A, H319	≥2.5-<10%
CAS: 10043-35-3 EINECS: 233-139-2 RTECS: ED4550000	Boric Acid ⚠ Repr. 1B, H360	0.1-1%

· **Other Components:**

CAS: 10034-99-8 EINECS: 231-298-2 RTECS: OM4508000	Magnesium Sulfate Heptahydrate	2.5-10%
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(Contd. on page 3)

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 2)

CAS: 7778-77-0 EINECS: 231-913-4 RTECS: TC6615500	Potassium Phosphate Monobasic Anhydrous	2.5-10%
CAS: 87-89-8 EINECS: 201-781-2 RTECS: NM7520800	D-myo-Inositol	1-2.5%
CAS: 6381-92-6	Ethylenediamine Tetraacetic Acid Disodium Salt Dihydrate	0.1-1%
CAS: 7782-63-0 EINECS: 231-753-5 RTECS: NO8510000	Ferrous Sulfate Heptahydrate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	0.1-1%
CAS: 10034-96-5 RTECS: OP0893500	Manganese Sulfate Monohydrate ⚠ STOT RE 2, H373	≥0.25-<1%
CAS: 7446-20-0 EINECS: 231-793-3 RTECS: ZH5300000	Zinc Sulfate heptahydrate ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	≥0.1-<0.25%
CAS: 56-40-6 EINECS: 200-272-2 RTECS: MB7600000	Glycine	≤0.1%
CAS: 7681-11-0 EINECS: 231-659-4 RTECS: TT2975000	Potassium Iodide ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	≤0.1%
CAS: 58-56-0 EINECS: 200-386-2 RTECS: UV1350000	Pyridoxine Hydrochloride	≤0.1%
CAS: 59-67-6 EINECS: 200-441-0 RTECS: QT0525000	nicotinic acid ⚠ Eye Irrit. 2A, H319	≤0.1%
CAS: 10102-40-6 RTECS: QA5085000	Molybdic Acid Disodium Salt Dihydrate	≤0.1%
CAS: 59-43-8	thiamine ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	≤0.1%
CAS: 7758-99-8 EINECS: 231-847-6 RTECS: GL 8900000	Cupric Sulfate Pentahydrate ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	<0.0025%
CAS: 7791-13-1	Cobalt Chloride Hexahydrate ⚠ Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	<0.025%

· SVHC

10043-35-3 Boric Acid

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 4)

AU

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 3)

- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** *Use fire extinguishing methods suitable to surrounding conditions.*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *No special measures required.*

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures** *Not required.*
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.*
- **Information about fire - and explosion protection:** *Protect from heat.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** *2-8°C*
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Further information about storage conditions:**
Protect from humidity and water.
Protect from heat and direct sunlight.
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** *No further data; see item 7.*
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 5)

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 4)

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Powder
Colour:	Off-White
Odour:	Indeterminate
Odour threshold:	Not determined.
- **pH-value:** Not applicable.
- **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gas):** Not determined.

(Contd. on page 6)

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 5)

· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with water:	- Not determined. Insoluble.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
No further relevant information available.
No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
7446-20-0 Zinc Sulfate heptahydrate		
Oral	LD50	200 mg/kg (mouse)
		1,260 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.

(Contd. on page 7)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 6)

- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

- **Toxicity**

- **Aquatic toxicity:**

ATE (Acute Toxicity Estimates)


Oral	LC50 / 96 h	2,088 mg/L
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- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|----------------------------------|
| · UN-Number | UN1477 |
| · ADG, IMDG, IATA | |
| · UN proper shipping name | 1477 NITRATES, INORGANIC, N.O.S. |
| · ADG | NITRATES, INORGANIC, N.O.S. |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · ADG, IMDG, IATA | |
|  | |
| · Class | 5.1 Oxidising substances. |

(Contd. on page 8)

Safety Data Sheet according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 7)

· Label	5.1
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Segregation Code	Warning: Oxidising substances. 50 F-A,S-Q A SG38 Stow "separated from" SGG2-ammonium compounds. SG49 Stow "separated from" SGG6-cyanides
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ)	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Transport category · Tunnel restriction code	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· Australian Inventory of Chemical Substances	
7757-79-1	Potassium Nitrate
6484-52-2	Ammonium Nitrate
10043-52-4	Calcium Chloride
10034-99-8	Magnesium Sulfate Heptahydrate
7778-77-0	Potassium Phosphate Monobasic Anhydrous
87-89-8	D-myo-Inositol
7782-63-0	Ferrous Sulfate Heptahydrate
10034-96-5	Manganese Sulfate Monohydrate
7446-20-0	Zinc Sulfate heptahydrate
10043-35-3	Boric Acid
56-40-6	Glycine
7681-11-0	Potassium Iodide

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 8)

58-56-0	Pyridoxine Hydrochloride
59-67-6	nicotinic acid
10102-40-6	Molybdic Acid Disodium Salt Dihydrate
59-43-8	thiamine
7758-99-8	Cupric Sulfate Pentahydrate

· **Standard for the Uniform Scheduling of Medicines and Poisons**

10034-99-8	Magnesium Sulfate Heptahydrate	S3
10043-35-3	Boric Acid	S5
59-67-6	nicotinic acid	S3, S4

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS03 GHS07

· **Signal word** *Danger*

· **Hazard statements**

May intensify fire; oxidiser.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat. - No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category P8 OXIDISING LIQUIDS AND SOLIDS**

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

10043-35-3	Boric Acid
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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

AU

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 13.08.2020

Revision: 13.08.2020

Trade name: Murashige and Skoog Medium, without Sucrose, Agar, IAA, and Kinetin

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H272 May intensify fire; oxidiser.

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.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

· **Department issuing SDS: Quality Control Dept.**

· **Abbreviations and acronyms:**

Ox. Sol. 2: Oxidizing solids – Category 2

Ox. Sol. 3: Oxidizing solids – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3