

SAFETY DATA SHEET

according to Work Health and Safety Regulations 2011

ProSieve™ Color Protein Markers

Version 2.1

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ProSieve™ Color Protein Markers

Material number : 50550

Manufacturer or supplier's details

Company : Capsugel Australia Pty Ltd.
Suite 610, 12 Century Circuit,
Norwest NSW 2153
Australia

Lonza Ltd
Muenchensteinerstrasse 38
CH-4002 Basel
Switzerland

Telephone : Tel +61 3 9550 0883

Telefax : Tel +61 3 9550 0890

E-mail address : sds@lonza.com

Emergency telephone number : +41 61 313 94 94 (24h)

Recommended use of the chemical and restrictions on use

Recommended use : For research use only.

Restrictions on use : NOT FOR USE IN GMP MANUFACTURING, NOR HUMAN
OR ANIMAL IN VIVO OR DIAGNOSTIC USE.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

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Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Other hazards which do not result in classification

May form explosible dust-air mixture if dispersed.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
(R*,R*)-1,4-Dimercaptobutane-2,3-diol	3483-12-3	>= 10 - < 15
Sodium dodecyl sulphate	151-21-3	>= 3 - < 5
Carbonic anhydrase	9001-03-0	>= 0,2 - < 0,3
Ovalbumin	9006-59-1	>= 0,1 - < 0,2

SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.
- In case of skin contact : After contact with skin, wash immediately with plenty of soap and water.
In the case of skin irritation or allergic reactions see a physician.

After contact with skin, wash immediately with plenty of soap and water.
If on clothes, remove clothes.
In the case of skin irritation or allergic reactions see a physician.
- In case of eye contact : Rinse immediately with plenty of lukewarm water, also under the eyelids, for at least 15 minutes.
Call a physician immediately.
Remove contact lenses.
Keep eye wide open while rinsing.
Protect unharmed eye.
Continue rinsing eyes during transport to hospital.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

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If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
		Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray
Specific hazards during firefighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Heating or fire can release toxic gas. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides (COx) Sulphur oxides (SOx) Sodium oxides Nitrogen oxides (NOx)
Specific extinguishing methods	:	Use a water spray to cool fully closed containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment. Avoid dust formation.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods and materials for containment and cleaning up	:	Pick up and arrange disposal without creating dust. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces)

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with compressed air).

SECTION 7. HANDLING AND STORAGE

Technical measures	:	Ensure that eyewash stations and safety showers are close to the workstation location.
Advice on protection against fire and explosion	:	During processing, dust may form explosive mixture in air. Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges.
Advice on safe handling	:	Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Avoid formation of respirable particles. Do not breathe vapours/dust. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.
Hygiene measures	:	Wash hands before breaks and at the end of workday. When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothing.
Conditions for safe storage	:	To maintain product quality, do not store in heat or direct sunlight. Keep frozen or refrigerated. Observe label precautions. Keep container tightly closed. Keep in a well-ventilated place. Electrical installations / working materials must comply with the technological safety standards. To maintain product quality, do not store in heat or direct sunlight.
Further information on storage conditions	:	Avoid moisture.
Further information on storage stability	:	Keep in a dry place. No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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Engineering measures	: It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Use only appropriately classified electrical equipment and powered industrial trucks. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).
Personal protective equipment	
Respiratory protection	: Half mask with a particle filter P2 (EN 143)
Hand protection	
Material	: Nitrile rubber
Remarks	: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Impervious gloves Break through time : > 480 min
Eye protection	: Safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: Choose body protection according to the amount and concentration of the dangerous substance at the work place. Dust impervious protective suit
Protective measures	: Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: powder, (lyophilised)
Colour	: purple
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: Not applicable
Evaporation rate	: No data available

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Flammability (solid, gas)	:	No data available
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	Not applicable
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Dust may form explosive mixture in air.
Conditions to avoid	:	Keep away from oxidizing agents, and acidic or alkaline products. Heat
Incompatible materials	:	Acids Bases Strong oxidizing agents Oxidizing agents Strong acids and strong bases
Hazardous decomposition products	:	No decomposition if used as directed.

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral toxicity : Acute toxicity estimate: > 2 000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : Remarks: No data available

Skin corrosion/irritation

Remarks : No data available

Serious eye damage/eye irritation

Remarks : No data available

Respiratory or skin sensitisation

Remarks : No data available

Germ cell mutagenicity

Genotoxicity in vitro : Remarks: No data available

Carcinogenicity

Remarks : No data available

Reproductive toxicity

Effects on fertility : Remarks: No data available

STOT - single exposure

Remarks : No data available

STOT - repeated exposure

Remarks : No data available

Aspiration toxicity

No aspiration toxicity classification

Further information

Remarks : No data is available on the product itself.

Remarks : No data available

The following toxicological data refer to:

(R*,R*)-1,4-Dimercaptobutane-2,3-diol(CAS-No.: 3483-12-3)

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Acute toxicity

Acute oral toxicity : LD50 (Rat): 500 mg/kg

Skin corrosion/irritation

Assessment : Causes skin irritation.
Method : OECD Test Guideline 431
Result : Skin irritation

Serious eye damage/eye irritation

Species : Chicken eye
Result : Corrosive
Assessment : Corrosive

The following toxicological data refer to:

Sodium dodecyl sulphate(CAS-No.: 151-21-3)

Acute toxicity

Acute oral toxicity : LD50 (Rat): 1 290 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2 000 mg/kg
Method: OECD Test Guideline 402

Serious eye damage/eye irritation

Species : Rabbit
Result : Irreversible effects on the eye
Assessment : Causes serious eye irritation.
Method : OECD Test Guideline 405

Respiratory or skin sensitisation

Test Type : Maximisation Test
Result : negative

Germ cell mutagenicity

Genotoxicity in vitro : Test Type: Ames test
Species: Salmonella typhimurium
Method: OECD Test Guideline 471
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Species: mammalian cells
Method: OECD Test Guideline 476
Result: negative

STOT - single exposure

Target Organs : Respiratory system
Assessment : May cause respiratory irritation.

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish : Remarks: No data available

Persistence and degradability

Biodegradability : Remarks: No data available

Bioaccumulative potential

Bioaccumulation : Remarks: No data available

Mobility in soil

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
 Dispose of contents/container in accordance with local regulation.
 Contact waste disposal services.
 Do not dispose of waste into sewer.

Contaminated packaging : Dispose of as unused product.
 Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

IATA Not dangerous goods

UN number : Not applicable
 Proper shipping name : Not applicable
 Transport hazard class : Not applicable
 Packing group : Not applicable

IMDG Not dangerous goods

UN number : Not applicable
 Proper shipping name : Not applicable
 Transport hazard class(es) : Not applicable
 Packing group : Not applicable
 Environmental hazards : Marine pollutant: no

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ADR	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
Environmental hazards	:	no
RID	:	Not dangerous goods
UN number	:	Not applicable
Proper shipping name	:	Not applicable
Transport hazard class	:	Not applicable
Packing group	:	Not applicable
Environmental hazards	:	no
Special precautions for user	:	none
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	:	Not applicable

SECTION 15. REGULATORY INFORMATION

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

Therapeutic Goods (Poisons Standard) Instrument

Not applicable

SECTION 16. OTHER INFORMATION

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Date format : dd.mm.yyyy

Full text of other abbreviations

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Ob-

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servable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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