



SAFETY DATA SHEET

This safety data sheet complies with the requirements of:
SS586: 2008 (2014)

Revision date 04-Aug-2023

Revision Number 3.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product Name CandiSelect, 20 x 90 mm Plates

Other means of identification

Catalogue Number(s) 63740

Pure substance/mixture Mixture

Contains Anatase (TiO₂)

Recommended use of the chemical and restrictions on use

Recommended use Restricted to professional users
In vitro diagnostic

Uses advised against No information available

Details of the supplier of the safety data sheet

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Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Singapore: 65-31581349

SECTION 2: Hazards identification

GHS Classification

Carcinogenicity	Category 2
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Label elements

**Signal word**

Warning

Hazard statements

H351 - Suspected of causing cancer

Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification**SECTION 3: Composition/information on ingredients****Substance**

Not applicable

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health

Chemical name	EC No (EU Index No)	CAS No	Weight-%
Dimethyl sulfoxide	200-664-3	67-68-5	0.3 - 0.99
Anatase (TiO ₂)	215-280-1	1317-70-0	0.1 - 0.299
Chloramphenicol	200-287-4	56-75-7	0.01 - 0.099
Citric acid	(607-750-00-3) 201-069-1	77-92-9	0.01 - 0.099
Zinc chloride	(030-003-00-2) 231-592-0	7646-85-7	0.01 - 0.099
Sodium hydroxide	(011-002-00-6) 215-185-5	1310-73-2	0.001 - 0.01
Manganese chloride (MnCl ₂), tetrahydrate	-	13446-34-9	< 0.001

Non-hazardous
ingredients

Proprietary

Balance

SECTION 4: First aid measures**Description of first aid measures****General advice**

IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.

Skin contact In the case of skin irritation or allergic reactions see a doctor. Wash skin with soap and water.

Ingestion Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

For emergency responders

Self-protection of the first aider No information available.

Indication of any immediate medical attention and special treatment needed

Note to doctors Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical None known.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical name	Singapore	ACGIH TLV
Zinc chloride 7646-85-7	PEL: 1 mg/m ³ STEL: 2 mg/m ³	STEL: 2 mg/m ³ fume TWA: 1 mg/m ³ fume
Sodium hydroxide 1310-73-2	STEL: 2 mg/m ³	Ceiling: 2 mg/m ³
Manganese chloride (MnCl ₂), tetrahydrate 13446-34-9	PEL: 1 mg/m ³	TWA: 0.02 mg/m ³ Mn respirable particulate matter TWA: 0.1 mg/m ³ Mn inhalable particulate matter

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing.

Hand protection Wear suitable gloves.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	gel
Colour	white
Odour	Varies.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapour pressure	No data available	None known
Vapour density	No data available	None known
Relative density	No data available	None known
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	1010 °C	
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information No information available

SECTION 10: Stability and reactivityReactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid None known based on information supplied.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

Information on likely routes of exposure**Product Information**

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity**Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		
Agar	= 11 g/kg (Rat)		
Glucose	= 25800 mg/kg (Rat)		
Dimethyl sulfoxide	= 28300 mg/kg (Rat)	= 40000 mg/kg (Rat)	> 5.33 mg/L (Rat) 4 h
Carrageenan	= 5400 mg/kg (Rat)		
Chloramphenicol	= 2500 mg/kg (Rat)		
Citric acid	= 3 g/kg (Rat)	> 2000 mg/kg (Rat)	
Zinc chloride	= 1100 mg/kg (Rat)		<= 1975 mg/m ³ (Rat) 10 min
Gentamicin, sulfate (salt)	> 5 g/kg (Rat)		
Sodium hydroxide	= 325 mg/kg (Rat)	= 1350 mg/kg (Rabbit)	
Manganese chloride (MnCl ₂), tetrahydrate	= 1484 mg/kg (Rat)		

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.

Carcinogenicity	Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.
Reproductive toxicity	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients.
STOT - single exposure	Based on available data, the classification criteria are not met.
STOT - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Classification not possible.

SECTION 12: Ecological information

Ecotoxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
Dimethyl sulfoxide	-	LC50: =34000mg/L (96h, Pimephales promelas) LC50: 33 - 37g/L (96h, Oncorhynchus mykiss) LC50: >40g/L (96h, Lepomis macrochirus) LC50: =41.7g/L (96h, Cyprinus carpio)	-
Citric acid	-	LC50: =1516mg/L (96h, Lepomis macrochirus)	-
Sodium hydroxide	-	LC50: =45.4mg/L (96h, Oncorhynchus mykiss)	-

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Dimethyl sulfoxide	-1.35
Citric acid	-1.72

Mobility

Mobility in soil No information available.

PBT and vPvB assessment

Chemical name	PBT and vPvB assessment
Dimethyl sulfoxide	The substance is not PBT / vPvB
Citric acid	The substance is not PBT / vPvB
Zinc chloride	The substance is not PBT / vPvB
Sodium hydroxide	The substance is not PBT / vPvB
Manganese chloride (MnCl ₂), tetrahydrate	The substance is not PBT / vPvB

Other adverse effects

Other adverse effects No information available

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IMDG Not regulated
Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

IATA Not regulated

SECTION 15: Regulatory information

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

Singapore

Environmental Protection and Management (Hazardous Substances) Regulations

Verify that licence requirements are met.

Chemical name	Hazardous Substances	transport
Sodium hydroxide	Exclusions: 1. Substances containing $\leq 17\%$, weight in weight, of Sodium hydroxide. 2. Made-up formulated preparations either liquid or solid for biochemical tests	1000kg

Environmental Public Health Act

Dispose of waste product or used containers according to local regulations.

Hazardous Waste (Control of Export, Import and Transit) Act

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Poison

Verify that licence requirements are met Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met

Chemical name	Poison	Poison Schedule Number
Dimethyl sulfoxide	X	First schedule Third schedule
Chloramphenicol	X	First schedule Second schedule Third schedule

Workplace Safety and Health Act

See section 8 for national exposure control parameters. Comply with the health and safety at work laws.

Pre-employment screening and appropriate health surveillance

Chemical name	Pre-employment screening and appropriate health surveillance
Manganese chloride (MnCl ₂), tetrahydrate - 13446-34-9	X

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Contact supplier for inventory compliance status

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AELG(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)
 World Health Organization

Label elements

P202 - Do not handle until all safety precautions have been read and understood
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Issuing Date

Bio-Rad Laboratories, Environmental Health and Safety

Revision date 04-Aug-2023**Revision Note** Significant changes throughout SDS. Review all sections.**This safety data sheet complies with the requirements of: SS586: 2008 (2014)****Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet